

JAN LEWIS ON CORPORATE CONNECTIVITY

FREE

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SEPT. 1987 • ISSUE 35

MICROTIMESTM

Special Section:
AppleFest '87 Preview

Dvorak's Last Column

By John C. Dvorak

Guy Kawasaki
On 4th Dimension

Wendy Woods'
NewsbytesTM

ASHTON-TATE

THE VIEW FROM THE TOP

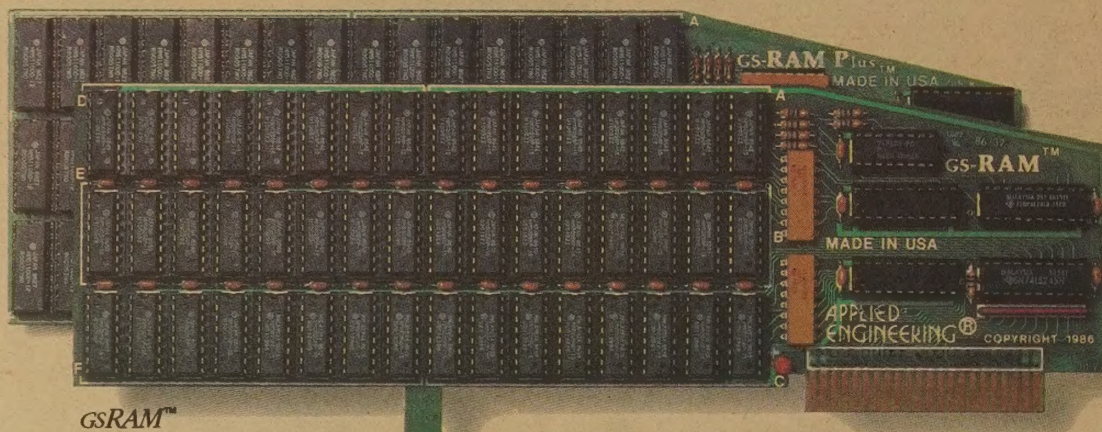
An Interview With Ed Esber



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GSRAM Plus™



GSRAM™

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- Has memory expansion port
- Has ROM expansion port
- No configuration blocks to set
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- Expandable to 8 MEG
- Expands AppleWorks internal limits
- Built-in Hi-Res self-diagnostic software
- 5 year hassle free warranty (Apple has a 90 day warranty)
- Made in USA

GSRAM for More AppleWorks Power

Only GSRAM and GSRAM Plus eliminate AppleWorks internal memory limits, increasing the maximum number of records available from 6,000 to over 25,000 and only GSRAM and GSRAM Plus increase the number of lines permitted in the word processing mode from 6,000 to over 15,000. And only GSRAM and GSRAM Plus offer a built-in printer buffer so you can continue using AppleWorks while your printer is printing. GSRAM and GSRAM Plus even expand the number of lines in the clipboard from 255 to 2047 and will auto segment large files so they can be saved on two or more disks. You can

even have Pinpoint or Macroworks and your favorite spelling checker in RAM for instant response. GSRAM and GSRAM Plus will even display the time and date right on the AppleWorks screen. Nothing comes close to enhancing AppleWorks so much.

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GSRAM is available with 256K, 512K, 1 MEG or 1.5 MEG of memory already on board. If you don't need the full 1.5 MEG now, you can choose a GSRAM with less memory and expand it up to 1.5 MEG in the future—or upgrade to GSRAM Plus for a small charge.



Steve Wozniak, the creator
of Apple Computer

"In quality, performance, compatibility, expandability and support, Applied Engineering's GSRAM and GSRAM Plus are number one."

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GSRAM Plus can be expanded up to 8 MEG with an optional piggyback card.

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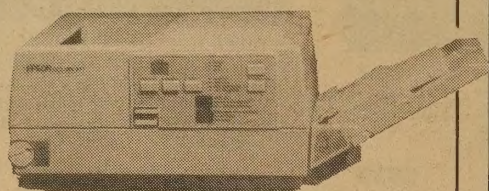
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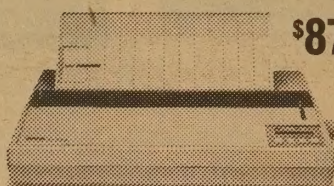
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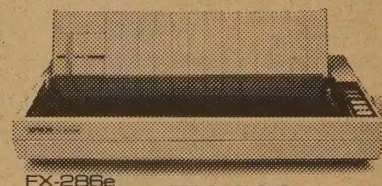
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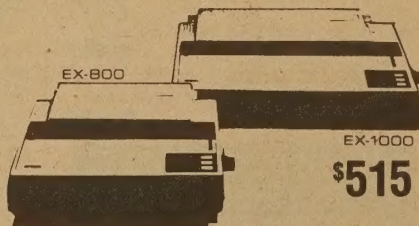
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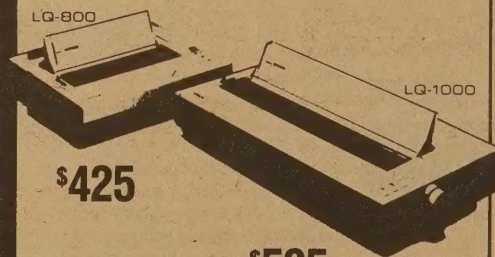
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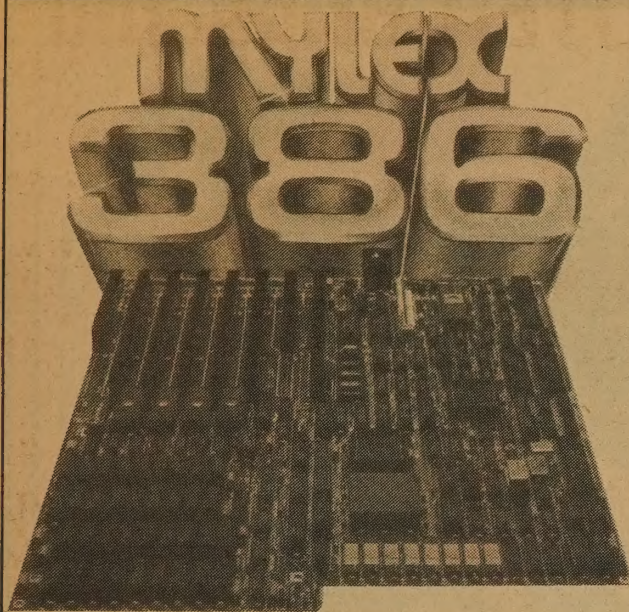
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COVER STORY

**58 Ashton-Tate:
 The View From
 The Top
 An Interview
 With Ed Esber**

By Jeff Spurrier

As the developer and publisher of bestselling database manager dBASE, Ashton-Tate enjoyed a meteoric rise from garage start-up to prominence as one of the Big Three in the software marketplace. From the untimely death of its charismatic founder to mass departures of key executives to latter-day production delays and litigation over intellectual property, however, the company's also had more than its share of turbulence. In this interview, Ed Esber, the man at Ashton-Tate's helm, offers a candid assessment of the company's history, its current state, and directions for the future.



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FEATURES

**55 Guy Kawasaki:
 Mac Databases Enter
 The 4th Dimension**

By Mary Eisenhart

Last seen inducing third-party developers to write software for Apple's machines, Guy Kawasaki now heads a new company, Acius Inc., whose first product is the 4th Dimension database, aka the fabled Silver Surfer.

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When it rains in Lenexa, Kansas you don't have to go outside to shop. You can go to the online grocery.

"Whoopee"

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"Oh Mama"

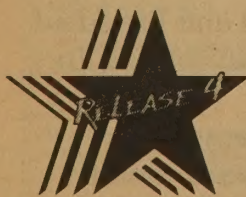
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BUT JAN LEWIS SAYS...

Interview

Apple's Peter Hirshberg On Connectivity

Peter Hirshberg is marketing manager of desktop communications for Apple Computer, Inc.

What do you see as the most important issue in this whole area of connectivity using Macs, IBMs, DEC's—the major environments in the business market today?

The biggest issue is how to allow that end user at his personal computer the ability to transparently get information from wherever it happens to be, in a Mac, an IBM host, a DEC, or Wang—and then use the best software to do something with it. We have a lot of systems that either can't communicate, or they can but the interface changes, the ability to bring things into applications to get something done is confusing. So, we have probably a lot of ground to go to really merge environments and let people transpar-

ently get work done without being flummoxed by the fact that every time you try to go somewhere else for information, all the commands change, and you have to go through a whole bunch of modes to move stuff from one place to another.

It seems as though Apple is the one that's on the defensive—that has to give its users what Sculley has referred to as “no penalty for having chosen a Macintosh.” What's your feeling on that?

Everybody is off struggling with this problem right now. These days the player who wins is the person who allows the end user to talk to a range of environments as easily as possible. So [to say that] Apple [is] on the defense is wrong. Rather, it's a key opportunity we're all responding to. The other thing is that the coprocessor cards that exist are nice, but that's not really our strategic direction, which is to make certain that applications on the Mac can read and write IBM files, that an Excel or Jazz can talk to a 1-2-3, or that Word or MacWrite or Write-

Now can talk to Word or MultiMate or WordStar on the IBM side. That the various databases can exchange data. Because the real future is not a Mac running someone else's operating system. That should be an option within the broader rubric of a Macintosh, transparently existing on a network. Apple has probably gone the furthest at making work group computing a reality.

In the IBM arena, there are a lot of standalone machines, there are servers that are principally used for shared access to disks or shared peripherals. In the Mac environment, AppleTalk is ubiquitous. There are servers out there now, such as TOPS and our own AppleShare, that are so transparent to use that people can just work together on documents at the same time, or move stuff back and forth, and we want to extend that to IBM PCs, whether an IBM PC is on our own network, or whether a Macintosh is participating on a 3Server or ultimately a Novell network or something else.

So, we see a real opportunity to

make our machine the desktop workstation of choice that can transparently move about in a bunch of environments. For example, right now, a Macintosh that does something as simple as 3278 emulation can simultaneously be on with the terminal and have Excel launched, and because you can cut from the host and paste it into Excel in real time, you can integrate information from both environments.

You can cut and paste between those environments. What format do they have to have to cut and paste in, and how aware does each of the programs have to be of the other one?

They don't have to be. Because it's part of the Macintosh architecture. The Macintosh architecture from the start said that first of all, all Macintosh applications, because they're all built on the Apple communications framework, can share information today, because they're intelligent enough, and aware of each other that if you highlight and copy from one application and paste

Jan Lewis is a well-known industry analyst and president of the Palo Alto Research Group, a consulting firm for the microcomputer industry. This article has been reprinted with permission from Computer Insider, PARG's newsletter.

QUESTION: What do you see as the role of the Mac in existing computing environments (IBM and DEC)?

“Apple is a viable alternative to MS-DOS. Additionally, the Mac family (which are the only Apples we sell) provides us with a level of transparency that's very appealing to corporate customers.”

Steve Hawley
Business Line Manager, Apple Products
PacTel InfoSystems

“I see an increased role of mixed environments, that is, of IBM, DEC and Mac. I see the Mac being specialized to higher bandwidth applications—those that are best handled by its graphics-intensive user interface. Because of this, our company is introducing in July its second Mac product [3+ for the Macintosh] that networks it with the DOS and IBM world.”

Bob Metcalfe
Chairman and Ethernet inventor
3Com

“[Apple] recently invested in Touch mainly because we're about to bring to market a product that gives transparent connectivity between the Mac and the VAX and the PC family of products in each direction. I think we'll give Sun a good run for their money.”

Bill Fello
CEO and President
Touch Communications, Inc.

“A year and a half ago, we had two Macs in the house and it was a nuisance because we couldn't network them and yet people liked them so well for generating documents. People are getting the Macs because of their friendliness.”

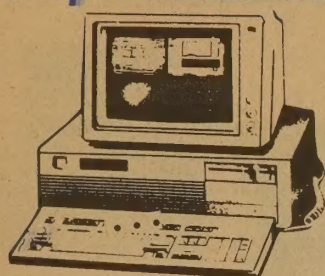
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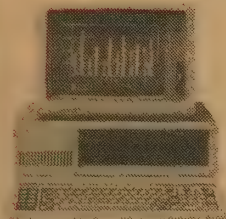
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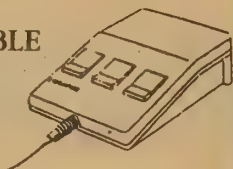
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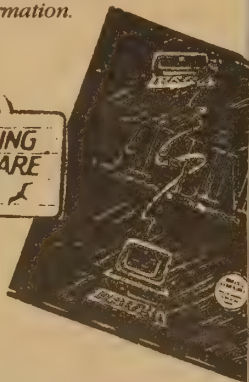


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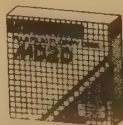
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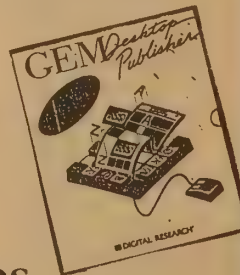


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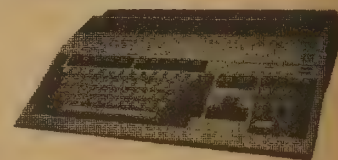
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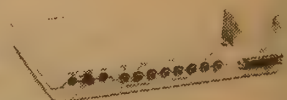
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into another, they all know how to handle text. In some of the more impressive demos we've done, for example, we've had a Macintosh that's been logged onto a 3278, and with Switcher, which lets you have three applications, you can switch between applications. They're not multitasking, but they're all launched, and you just push a button and one pops up, and then you push an arrow, and the next one pops up. And you can basically be onto a host, copy information from the host, go into Excel and paste it. And Excel can read 1-2-3, and then take information from another Macintosh that it's getting through an AppleShare server or Apple electronic mail program, and integrate it all together. So, given the architecture of the Mac, where you've got something that was initially built for Mac applications alone—that, is the fact that applications could share information—as you move into a communications environment, suddenly you have this situation where every host acts differently and commands are all different, and it's difficult to move information and file transfer around. The architecture of the Mac really allows for that in a much more facile manner than other systems. From the start it makes the Mac a very strong communication's workstation.

Let's get to the mechanics of the 1-2-3 on the PC to the Excel. Somebody did some additional work.

On the file translation side. Neither Lotus nor Excel did any work to move the data from point A to point B. Then the question comes, "Who's going to do the work to move it back and forth?" Bill Sadleir [of Dayna Communications] comes up and says, "I'll give you a 5¼ inch drive that we can hook to a Macintosh, and if you put your 1-2-3 data disk in that, voila! Excel will just look at it like another Mac disk and bring the data in."

And Nat Goldhaber [of Centram Systems] says, "Instead of buying extra disk drives, if you've got IBMs and Macs in the same office, just put them on our network and everybody will see everybody's disk as an available drive, if you've given it the appropriate security. And we can just open the thing up and go at will." And then we come along with 3270 file transfer products and say, "If you're a big company and you've got a 4300 somewhere and you're running TSO, you can send it up to TSO and bring it down. Which is, in big companies, how they often do it." We also just did Desktop Express with MCI-Mail, which allows you to move full binary files and graphics from any Mac to any Mac, and it's compatible with Lotus Express. So if you had an IBM and I had a Mac, and you had Lotus Express for MCI-Mail and I had Desktop Express, we could move this stuff over MCI-Mail transparently.

And then Ash Jain [of AST] comes

along and says, "You could turn your Mac into a PC," and there's another one. Finally, we've got AppleShare, and there are now products such as Tangent Technology's product that puts an IBM PC on our server. So there are many solutions; there are just a huge number of ways of moving data back and forth that really mirror the very robust expansion of host communications networking. The issue of moving it from point A to point B is, from where I sit, almost moot. From where you and the rest of the industry sit, until we talk about it and it's generally accepted, it's something that everyone has to keep asking to figure out what's where. But there's lots and lots of ways of moving stuff back and forth today, and there are going to be more.

The real future is not a Mac running someone else's operating system.

Let's say I want to go from PageMaker IBM to PageMaker Macintosh. How do I do this?

If I had a Mac and a PC in the same office, I'd just go out and buy MacLink Plus for a hundred and some odd bucks, which comes with a cable and a disk that you put in both machines. It's the simplest way of doing it. You stick the two machines next to each other. There's a cable, and one end of the cable plugs into the serial port of the Mac, and you put a disk in each thing, and you just send the stuff back and forth. Obviously the applications on both sides must have either the same file format, or the ability to translate from one file format to another. In the case of graphic documents, there aren't a lot of ways of going back and forth now. In general, if you create something in MacDraw, there's no way right now of displaying it in the PC, because there's really no equivalent to MacDraw on the PC. When the IBM universe stabilizes more, you'll probably see a lot more translation.

The most important thing is that the data from one application should be able to be read by the data from another application, and shared. This is something that's basically licked in the text and the spreadsheet arena. In the case of a graphic document like a PageMaker document, if the thing's in PostScript, you can get it from a PC and print it onto a laser printer right away.

The one area that is not as strong right now is creating a graphic document on the PC and sending it to the Mac to be viewed. Because at the moment, while we would like to see PageMaker Mac and PageMaker PC share full graphic documents, it's probably the least necessary thing. What most people are going

to be doing is using desktop publishing, probably on the Mac side, and creating data elsewhere, and then printing it out. If they're doing desktop publishing on the PC side, then they're not going to be able to send that final document to a Mac until the two products can support all the same graphics. And although they will be able to take advantage of a LaserWriter, we've been actively encouraging developers to get their products to read files on either side. And we've developed Apple File Exchange, which is a tool to accommodate that.

Starting with the shipment of the Apple 5¼-inch PC drive in the very near future, the Mac operating system will be extended to include Apple File Exchange, which does application file translation from one environment to another, and this is a shell under which you put various translator pairs. The very first one we'll be providing is IBM's DCA, Document Content Architecture. A third party will be announcing, at the same time, a whole bunch of translation pairs, including the WordStar and MultiMate and dBASE

Commentary:

Big Blue, Baby Mac, And The Holy Host

Just about the time that Apple was selling its millionth Macintosh and introducing its new lines of open Macs—just about the time that Digital Equipment Corp. (DEC) was enjoying a resurgence due largely to a cohesive mid-range strategy and IBM was experiencing a slump due in part to the lack of a cohesive mid-range strategy—we started noticing a need to share data and applications between Macs and PCs. So did lots of other computer users, and activity in that area really started cooking.

Which is funny, because initially the Mac was perceived as less than a "serious" computer. In spite of that, the Mac had found a snug berth in the business environment, largely because of the desktop publishing capabilities of Apple's LaserWriter and its associated software. But while the Mac may have gotten into the office via the trojan niche of Desktop Publishing, the data to be published had to come from lots of places within and outside the organization.

Now think about the problem. Say you're a business putting out a newsletter. You have a designer working on setting up the PageMaker file while a writer composes the text and someone else draws the graphics. You could not take it for granted that you would ever be able to actually integrate all three pieces

data to the appropriate things on the Mac side. So, we've built into the operating system the "hooks," if you will, to accommodate this. Then either developers or other third parties must build file translation pairs that accomplish these things.

PageMaker-to-PageMaker is a specific instance and it's Aldus's

We see an opportunity to make our machine the desktop workstation of choice.

responsibility. They've said they're going to do it, and I can't tell you how far along they are. And Apple itself can't take the responsibility of making the two work together, although we think we're building an enormous market for those things to share stuff transparently. It looks like that's exactly the direction that developers are going in. □

of work in one machine or onto one laser printer. Or you're a Macintosh user and someone gives you an important document to review on a vanilla IBM WordStar disk. What do you do?

Apple's CEO and Board Chairman John Sculley said there should be no penalty for using a Macintosh. Well, if you're sitting there trying to get an IBM WordStar disk into your Macintosh for processing, and you can't do it, that's a penalty. Seemingly simple problems like getting LaserWriter output from a PC required kludges and workarounds. (Workarounds like reentering the data, for instance...)

The workarounds led naturally to commercial solutions. A whole range of solutions appeared, from transferring bits over serial cable to application sharing at the Local Area Network level, from hooking a 5¼-inch drive with some application filters onto your Mac to turning your Mac into a clone. Products appeared which not only bridged the gap between Mac and PC, but provided capabilities that you couldn't even think of in a stand-alone user environment. Odesta Corp.'s Helix, for instance, provides a database that's truly distributed over Macs, IBMs and DEC VAXes. Think Technologies, Inc. provides In-Box, which is a full messaging system between Macs and PCs.

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Desktop Express for the Macintosh and Lotus Express for the PC transfer applications, bit-maps, or any full binary file via MCI host computers. Additionally, connectivity to hosts and the corporate backbone, usually DEC or IBM, has started taking on more importance.

This recent emphasis on Mac/IBM/DEC connectivity is not only a manifestation of present need but an indicator of products, solutions, and opportunities yet to come. Recent history of the three significant operating environments in the business market helps explain why we are seeing this need expressed now and exactly what it means to end users and to the industry.

In 1981 IBM announced its open-architecture, low-risk entry into entry-level systems. The IBM PC's dominance was reinforced by the failure of DEC's poorly designed Rainbow 100. With the emphasis—and growth—at the desktop level, DEC itself was perceived as a flop, despite the success of the growing VAX family. Within a couple of years, Apple was introducing the first Macintosh. It was a cute, seductive machine. It was not taken seriously, however, because of its slow speed, insufficient memory, and shortfall in the software area.

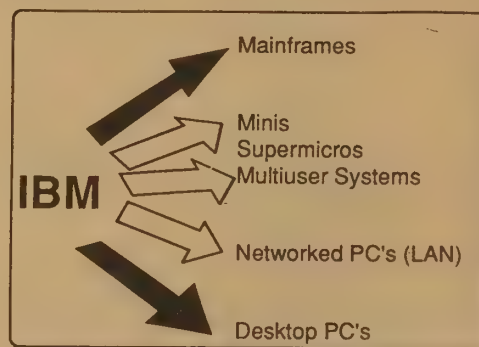
But the Mac expanded and evolved, software and third party vendors jumped into the market, and users and uses of the Mac continued to increase. The proliferation of the desktop computer drove home to everyone the need to make incompatible systems communicate with one another.

In an exclusive interview with Jan Lewis' *Computer Insider* nearly a year and a half ago, John Sculley revealed his vision of the future. "We must reduce the risk of buying Apple's products by having really good connectivity. We must increase the reward for buying Apple products by having a family of workstations that can connect up to a range of host computers as well as operating with their own work group. That's the approach we're taking. Our goal is to make the issue of MS-DOS compatibility a non-issue."

If Sculley's vision holds true, we'll see the day when users will decide which computer to buy based not on what is most compatible with the organization's existing computers, but on what is the best box for the individual user. The tower of computer babble may never be demolished completely, but at this rate MS-DOS compatibility is quickly becoming a non-issue. □

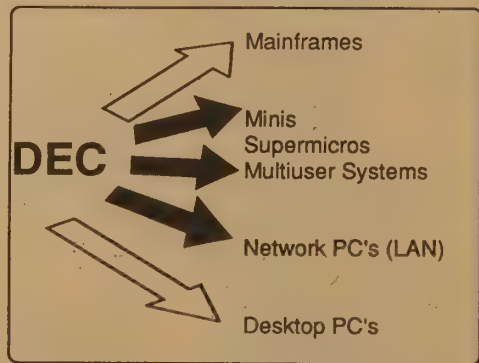
CORPORATE COMPUTING: A CASE OF SHARED CUSTODY

Vendors are playing connect-the-dots among these three corporate computing environments.

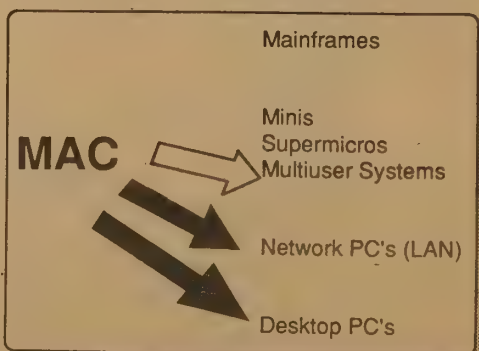


where vendors have
strength in corporate
computing
where vendors
need to develop
strength

IBM owns the mainframe
and micro levels, but is still
floundering in the
mid-range.



DEC is strong in the
mid-range, but for strategic
reasons must expand the
product line into the
high-end, and for defensive
reasons must gain more of
a presence at the desktop
level.

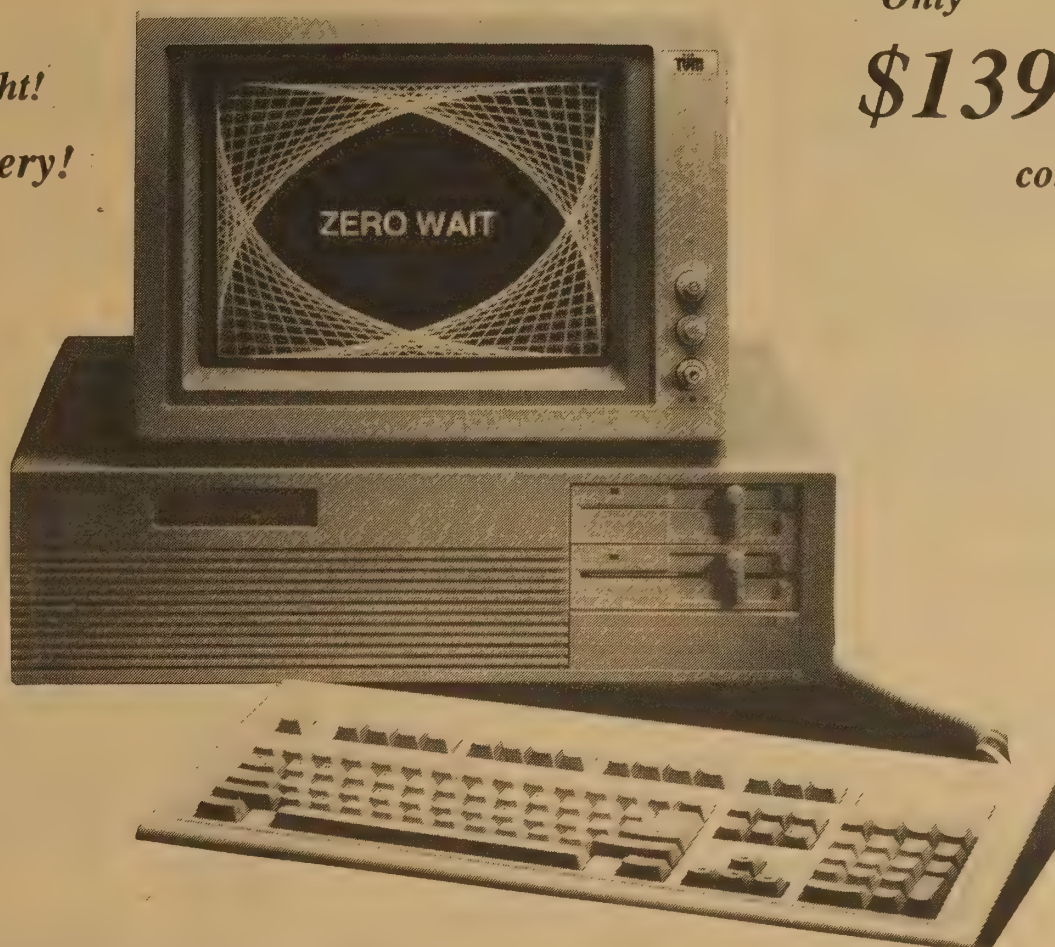


Apple's Macintosh family
is strong at the desktop
and networked work group
level, but needs to expand
into the mid-range or offer
Mac users a way to
connect at that level.

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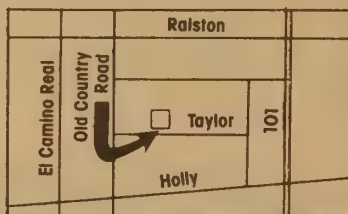
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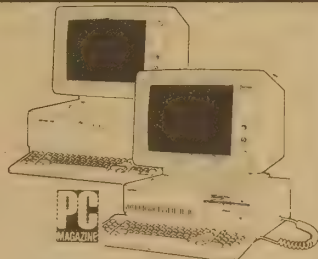
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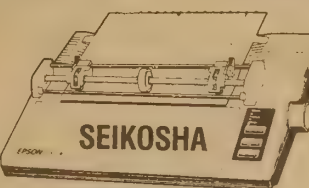
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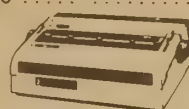
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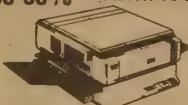
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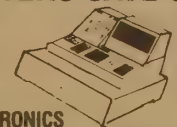
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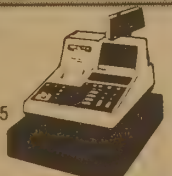
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August 22 Multi-User Accounting Seminar. Call MIP Computer & Communication Systems, Inc., (408) 738-8578 for information.

August 22 Santa Rosa Computer Show & Sale. Sonoma County Fairgrounds. Golden Gate Shows. (415) 388-8893.

August 22 Computer Swap. Santa Clara Convention Center. Computer Swap America. (415) 366-9162.

August 25-28 Fiber Optic Communications. San Francisco. Contact Integrated Computer Systems (800) 421-8166.

August 29 Robot Fair: Exhibits And Line Slalom Race. 5757 Geary Blvd. Contact Jim Strope. 522-6564.

August 29 Computer Supermarket Show And Sale. Santa Clara County Fairgrounds, San Jose. Microshows (800) 433-7469.

August 29-30 Oakland Computer Show & Sale. Oakland Coliseum. Golden Gate Shows (415) 388-8893.

September 5 Computer-Aided Graphic Design Exhibit. In conjunction with the AIGA National Conference in San Francisco. Suite 3D: Center for

Computer Art and Technology. Call (415) 882-7063 for information.

September 5-6 Computer Supermarket Show And Sale. San Mateo County Fairgrounds, San Mateo. Microshows (800) 433-7469.

September 9-12 The Desktop Publishing Conference. Santa Clara Convention Center, Santa Clara. Call Seybold Seminars (213) 457-5850 for information.

September 12 Computer Swap Meet. Santa Clara County Fairgrounds, San Jose. RK Productions. (800) 252-SWAP.

September 12-13 Computer Supermarket Show And Sale. Brooks Hall, San Francisco. Microshows (800) 433-7469.

September 15-18 Communication Systems Design. Palo Alto. Contact Integrated Computer Systems (800) 421-8166.

September 18-20 Applefest '87. San Francisco Civic Auditorium. for information contact Cambridge Marketing Inc., (617) 860-7100.

September 20-25 Hewlett-Packard Business Computer Users Conference. Las Vegas, Nevada. Contact INTEREX at (408) 738-4848 for information.

September 16-17 DataFlex Class. Mountain View. Call (415) 964-1500 for information.

September 22-25 Designing Modern Software/ User Interfaces. Palo Alto. Contact Integrated Computer Systems (800) 421-8166.

September 22-25 Integrated Voice/Data Communications And ISDN. Palo Alto. Contact Integrated Computer Systems (800) 421-8166.

September 26 Sacramento Computer Show. Cal Expo. Golden Gate Shows (415) 388-8893.

September 28-October 2 tableBASE Educational Seminar/Users Conference. Westin St. Francis Hotel, San Francisco. Contact Donna Ronayne. Data Kinetics. (613) 238-2852.

October 3 Vallejo Computer Show. Solano County Fairgrounds. Golden Gate Shows (415) 388-8893.

October 5-9 Bourne Shell And C Programming, System Administration And UNIX Classes. Hyatt House, Palo Alto. For more information contact Berkeley Decision/Systems at (408) 458-0500.

October 8-9 Electronic Messaging '87. The Electronic Messaging Association's annual conference. Sir Francis Drake Hotel, San Francisco. Call (202) 293-7808 for more information.

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October 11-14 Third Annual Software Publishers Association Fall Conference. Cambridge, Massa-

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- ☐ **CAD 3**—The PC-Flow, flowchart creation program *
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- ☐ **COMM 2a,b**—(2 disks) Procomm 2.42, an excellent modem program with terminal emulation

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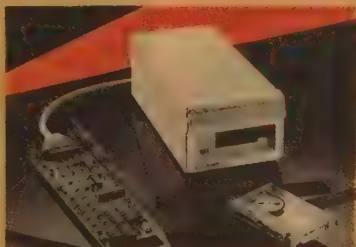
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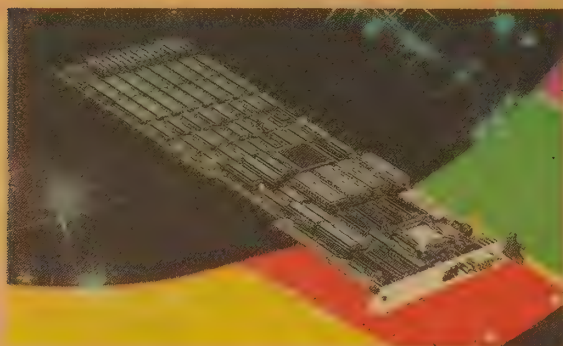
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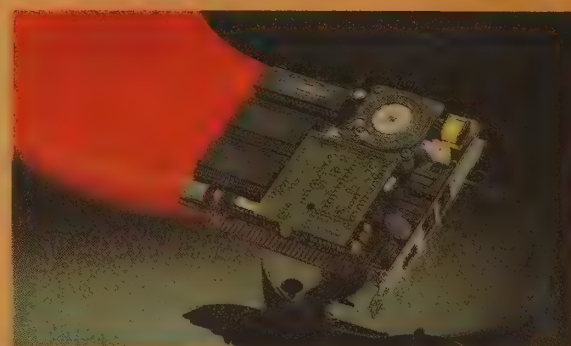
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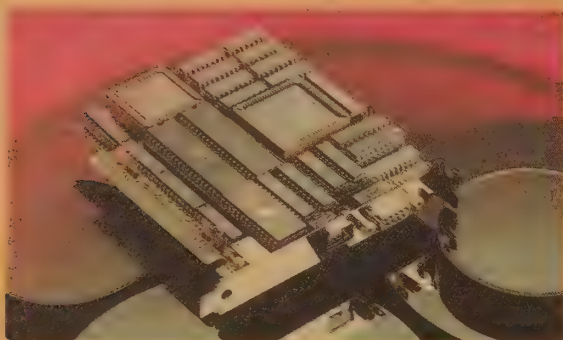
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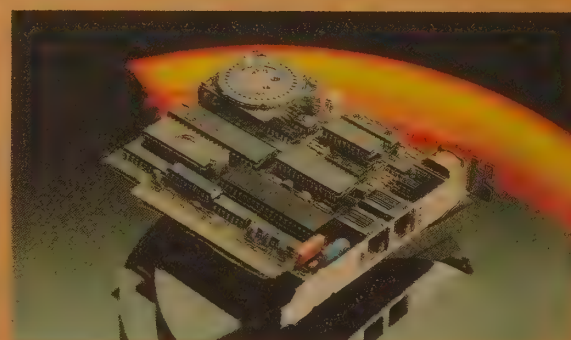
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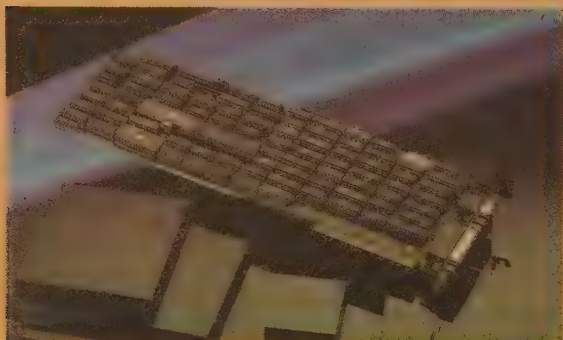
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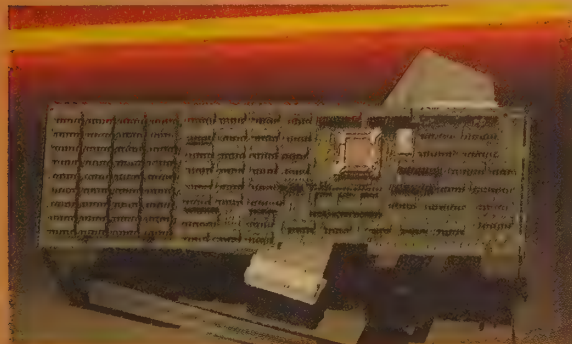
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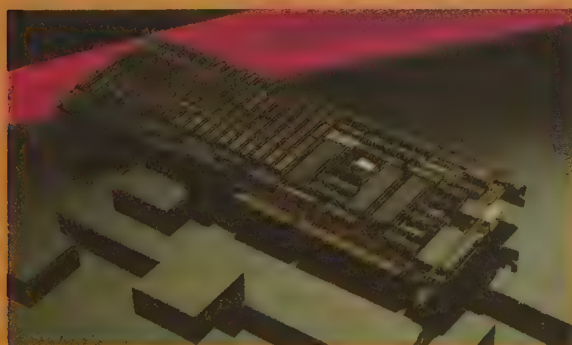
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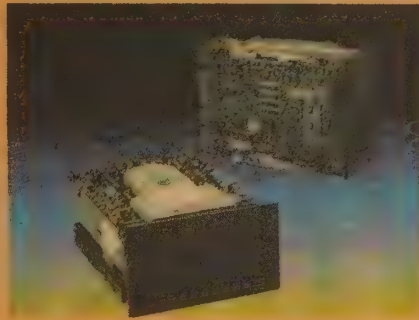
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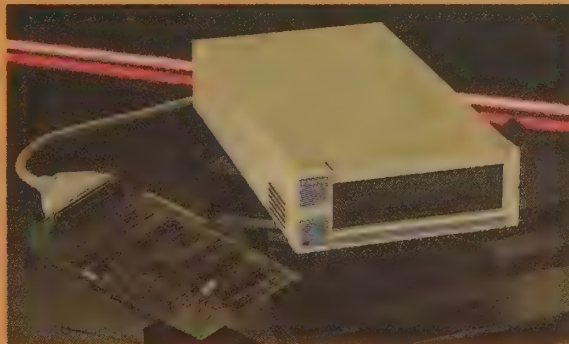
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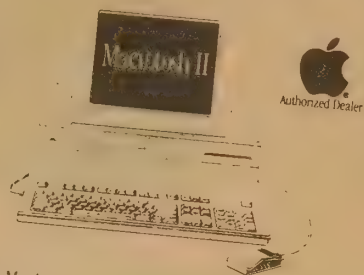


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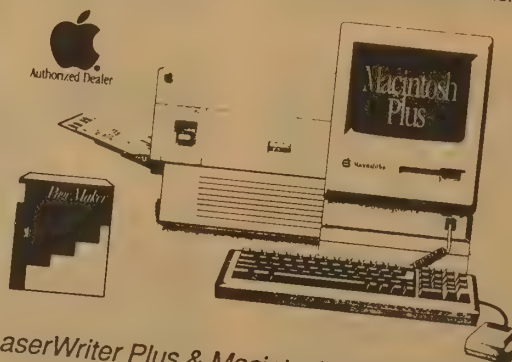
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October 17-18 Oakland Computer Show. Oakland Coliseum. Golden Gate Shows (415) 388-8893.

October 20-23 PC-Based Tools For Software Analysis And Design. Palo Alto. Contact Integrated Computer Systems (800) 421-8166.

October 20-23 Machine Vision And Image Recognition. Palo Alto. Contact Integrated Computer Systems (800) 421-8166.

October 21-23 IFIP Conference On Computers And The Law. Santa Monica. Contact J.J. Buck BloomBecker at (213) 850-0509 or Michael M. Krieger at (213) 208-2461.

October 27-29 Computer Aided Software Engineering Symposium. Hyatt Regency, Oakland. Call (617) 470-3880 for information.

October 24 Computer Swap Meet. San Mateo County Fairground, San Mateo. RK Productions. (800) 252-SWAP.

October 31 Santa Rosa Computer Show. Sonoma County Fairgrounds. Golden Gate Shows (415) 388-8893.

November 2-3 BPI EEO/Affirmative Action Santa Clara Tech/Job Fair. Santa Clara Marriot. Call BPI at (800) 328-4032.

November 7 Computer Supermarket Show And Sale. Santa Clara County Fairgrounds, San Jose. Microshows (800) 433-7469.

November 19-20 Eleventh Annual Western Educational Computing Conference. San Francisco Cathedral Hill Hotel. Contact Alexia Devlin, CECC Treasurer, San Francisco State University, Accounting Data, NADAM-358, 1600 Holloway Ave., San Francisco, CA 94132.

November 19-21 MacFair. New York City. Call American Expositions Inc., (212) 226-4141.

November 19-22 imPACT '87 International Conference And Exposition On Electronic Publishing. Contact Seybold Seminars at (213) 457-5850.

November 28-29 Computer Supermarket Show And Sale. Brooks Hall, San Francisco. Microshows (800) 433-7469.

December 5 Computer Supermarket Show And Sale. Cow Palace, San Francisco. Microshows (800) 433-7469.

As a community service, MicroTimes lists trade shows, seminars, and other special events in the Calendar of Events free of charge on a space-available basis. To improve the likelihood of your listing's timely inclusion, please make sure we have the necessary information no later than the first of the month two months before the cover date of the issue in which you'd like it to appear (i.e. the deadline for the December issue, on the street in November, is October 1). Send to: MicroTimes Calendar of Events, 5951 Canning St., Oakland, CA 94609.

News about user group meetings and other regularly scheduled activities should be sent to User Group Network at the same address.

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PS/2 Clones On The Way; Apple Expects \$2 Billion Year

Here Come The PS/2 Clones

SAN FRANCISCO, (NB)—The first two semiconductor products designed to be a part of an onslaught of IBM PS/2 clones have been announced. The first, a chip set from Chips & Technologies in Milpitas, replaces 45 components in the XT or Model 30 and is said to out-perform IBM's own PS/2 line by 25%. The chip sets will be available to computer manufacturers in sample quantities next month. Chips & Technologies won't name its customers, but several big companies are among them.

Meanwhile, Paradise Systems of South San Francisco unveiled its own reverse-engineering masterpiece—a chip called the PVGA1 that's said to be completely compatible with the PS/2 line's graphics system. The chip will be sold to manufacturers for incorporation in complete computers and in add-on cards to make current PCs run new PS/2 line software. Sample quantities are expected to be available next month.

New WordStar Announced

SAN RAFAEL, CA (NB)—The fifth version of the venerable old word processing staple will be shipped in mid-August, according to MicroPro International. The new WordStar 5.0, \$295, has over 100 improvements, including an onboard 61,000 word dictionary, options of using the new or old WordStar commands (pull down menus or keyboard commands), laser printing capability, and more. The new WordStar, which has some desktop publishing features, is expected to replace WordStar Professional 2000, which many found too complicated and cumbersome. Word is there are 2,000,000 WordStar users currently in the world, and since many of them are still CP/M version users, they too will finally be recognized. MicroPro plans to release WordStar 4.0 for CP/M computers next month, its first CP/M product in years.

Microsoft Ships Word 3.01, OS/2 Developer's Kit

REDMOND, WA (NB)—Registered owners of Microsoft Word 3.0 for the Macintosh are receiving a free update of the program, after which it will be sold in retail stores. Microsoft says the new word processor converts files, paginates, and prints to non-Apple serial printers better than 3.0 did. Best of all, version 3.01 allows installation of an unlimited number of fonts, which are displayed alphabetically on the font menu.

Those of you who would like to develop software for the OS/2 line should also dig deep for the \$3,000 needed for Microsoft's OS/2 Software Development Kit. The kits are shipping now, and enable programs to be ported to IBM's new line of 80386 machines, as well as the 80286 computers. The basic hardware needed to run the system is an AT or compatible, or a PS/2 with MS-DOS 3.0 or higher.

And finally, Microsoft's stellar financial journey went into warp speed with its fourth quarter results. Fourth quarter demand for Microsoft products shot profits 50% higher than this time last year. Sales were nearly \$100 million dollars compared to \$63 million a year ago. While laymen may think these are terrific results, the analysts say they expected better. But new administrative costs, associated with new OS/2 marketing and promotion, dampened the profit figures.

Sculley Predicts \$2 Billion Year For Apple

CUPERTINO, CA (NB)—Apple's chief John Sculley told analysts that if they thought third quarter figures were good, they should see what the fourth quarter will produce. If Apple's prediction of \$725 million in sales for the quarter ending September 25 comes true, it will make Apple, for the first time, a \$2 billion a year company.

Apple says its Macintosh SE sales accounted for nearly half its third quarter revenues, and is now the firm's top-selling computer. Apple says profits are up 65% and revenues are up 42% over this time last year, amounting to \$637 million for the last three months. Industry watchers say Apple is finally making wide inroads into the business market, and is taking advantage of the confusion around IBM'S PS/2 line of computers. "While Compaq and IBM are in a bit of a shouting match, Apple is quietly gaining market share in Fortune 1000 companies," Bruce Lupatkin, an analyst with Hambrecht & Quist in San Francisco was quoted as saying.

A recent survey by Kidder Peabody shows a bright future for Apple. The survey of Fortune 1000 companies found 30 percent expected to buy Apple computers within the next year.

Following an Apple official's testimony in Washington that a ban on Toshiba products could hurt Apple, the firm has also announced intentions to "reduce its dependency" on Japanese suppliers. Apple's dot matrix line of printers is currently made by Tokyo Electric, a Toshiba subsidiary in Japan. No word on where Apple will go for a new OEM supplier.

In other news, Apple is offering a free upgrade of MacWrite, MacProject, MacDraw and MacTerminal to anyone who takes their master disk to an authorized Apple dealer for replacement. The new versions make better use of the Macintosh SE and II and also perform with the AppleShare file server.

Activision Running In The Black

MOUNTAIN VIEW, CA (NB)—Activision people are celebrating the first turn in the company's fortunes in recent memory. The games company posted earnings of \$524 thousand in its quarter ending June 27, compared to a loss of \$1.9 million a year ago. Why the turnaround? Major surgery on Activision's titles. Twenty games and other software products were cut from production. Also, major surgery on operating costs was instituted by Activision President Bruce Davis, who took office in January after founder James Levy resigned. Activision is said to be the 10th largest independent software publisher in the U.S. and new strategic and product marketing focus is expected to raise its profile even higher. CONTACT: Loretta Stagnitto, ACTIVISION, 415/960-0518.

Sun Slashes Prices, Unveils 10 MIPS RISC Machine

MOUNTAIN VIEW, CA (NB)—Sun Microsystems has introduced its most powerful line of computers to date—\$40,000 number-crunchers that go head-to-head with Digital Equipment's top-of-the-line VAXes and Apollo workstations. Designed for engineering and computer aided design, the RISC-based Sun-4 "supercomputing machines" have "Cray-like features" such as an ability to execute 10 million instructions per second. These are features normally found in minicomputers costing ten times as much.

The Sun-4s have one gigabyte of virtual memory and up to 128 megabytes of main memory. "SPARC is an architecture for the 1990s," says Sun's spokesperson Arun Tunaja, referring to the RISC architecture of the machines.

To spread the good news even further, Sun has licensed manufacture of the Sun-4's custom RISC chips to Fujitsu Microelectronics of Santa Clara, which won a contract to build them in the first place. Fujitsu, in turn, can sell these chips to other companies for inclusion in their own products.

And finally, Sun has sliced 15 to 19% off the price of its current line of workstations. This company is clearly serious about winning a workstation war.

Intel Plans 80486

SANTA CLARA, CA (NB)—Intel is hard at work on the next generation microprocessor, a successor to the phenomenal 80386, according to the San Jose Mercury News. The 80486 is said to be four times as dense—four times the numbers of transistors—as the 80386, with 1 million transistors. The report says the chip will run at the speed of an IBM Sierra mainframe. Intel confirms development of the 80486 is underway but refuses to provide details.

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Monochrome w/Print	64
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Samsung Amber Monitor	82
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Microsoft Buys Forethought

SUNNYVALE, CA (NB)—Everybody's saying the next hot area of software development will be desktop presentations—the ability to create professional-quality slides and transparencies, and mix video and computer graphics. Anticipating that explosion, Microsoft has purchased a Silicon Valley company that specializes in a product for the desktop presentation market—Forethought Inc. Started by former Apple marketing executive Rob Campbell four years ago, Forethought offers the Macintosh program *PowerPoint*, which designs screen displays for output to a printer, for making slides, overhead projector transparencies, and the accompanying printed materials needed for presentations. The \$395 program, along with *Filemaker Plus*, a database application, is bringing in over \$800,000 a month to the 22-member Forethought—a dazzling achievement in its own right. No purchase price for Forethought was disclosed. The firm will now become a division of Microsoft, devoted to research and development in business graphics. Forethought Product Manager Keith Sturdivant told NEWSBYTES. All employees will

IBM Woos Education Market With Low-End PS/2 Model

IBM has made a major foray into the educational marketplace with the introduction of the Personal System/2 Model 25.

The Model 25 is the lowest priced computer in IBM's new Personal Systems/2 line. Its low price is designed to attract the student and educational dollar. The advantage to the student, according to IBM, is that this computer will be able to network with the entire PS/2 line and run the thousands of MS-DOS applications currently available.

IBM is planning to issue a series of educational software packages to support the machine. Part of its strategy involves networking classroom computers so that teachers can adjust lessons to the students' individual capabilities.

What makes the Model 25 different from the other machines in the PS/2 line is its small-footprint construction that fuses the monitor with the computer. There is also the option of a new shortened version of the regular PS/2 keyboard, specifically designed to complement the Model 25.

The computer features 512K of RAM that can be expanded to 640K, one or two 720K 3.5" disk drives, a full card expansion slot and a half card expansion slot. It also includes a mouse port, serial port, parallel port and a speaker port.

The onboard processor is the Intel 8086, which has zero wait states and runs at 8MHz. An 8087 math coprocessor is also available.

IBM is offering a monochrome and a color version of the Model 25. Both have 12" diagonal monitors that support text and graphics modes. The color monitor is MCGA (Multi Color Graphics Array) and can display up to 256 colors from a palette of more than 256,000. The black and white monitor can display 64 shades of gray simultaneously.

IBM is also offering a collegiate version of the Model 25. The Collegiate includes a second disk drive, 640K of memory and a special package of

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either be retained, or offered jobs with Microsoft in Redmond, Washington. "Everybody feels pretty positive," he said. CONTACT: FORETHOUGHT (MICROSOFT) 408/737-7070

More Workstations, Prime Contract From Sun

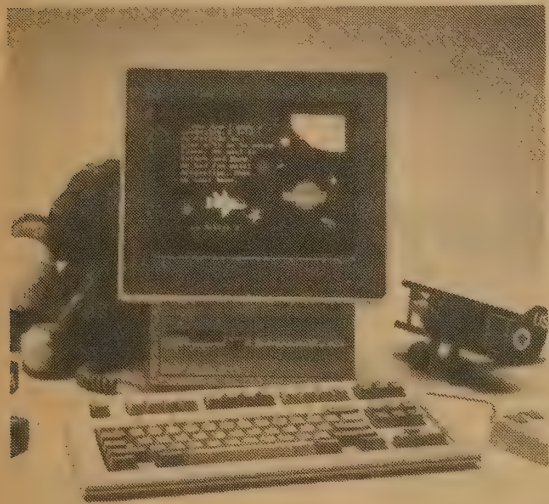
ANAHEIM, CA (NB)—Sun Microsystems has introduced a new left hook in its fight to win the graphics workstation market. The Sun-3/60 series, starting at \$9,900 and running to \$12,400, runs at three million instructions per second—nearly three times faster than a DEC-VAX 11/780—has a palette of 16 million colors, and is expandable up to 24 megabytes of memory. Analysts say the configuration, at this price, is indeed a knockout.

One particularly impressed group is Prime Computer in Natick, MA, which has ordered \$75 million worth of the 3/60 series to bundle with its PRIME MEDUSA two- and three-dimensional mechanical design and drafting software.

Sun Microsystems also announced that income for fiscal 1987 has tripled to \$36.3 million; fourth quarter revenue is up 142%. Sun credits its good

applications designed specifically for higher education. The Collegiate Kit includes a mouse, IBM DOS 3.3, Microsoft Windows 1.04, and word processing, graphics and filing programs. These applications are menu driven, to take advantage of the mouse.

A Model 25 with a monochrome display, a single disk drive and 512K of memory lists for \$1,350. A Model 25 with color display lists for \$1,695. The Collegiate Kit applications package



The compact Model 25 offers the advantages of IBM's PS/2 line in a low-cost unit for educational use.

lists for \$314, the second disk drive, \$170 and the 128K memory expansion kit \$49. Special offers and educational discounts will be available from IBM.

Along with announcing the new low end Model 25, IBM also announced a new version of its high end Model 80. The Model 80 is an 80386-based machine that provides 314MB fixed disk storage, expandable to a maximum of 628MB with the new 314MB Fixed Disk Drive Option. The Model 80 also includes a 3.5", 1.44MB disk drive, 2MB system board memory, expandable to 4MB, and seven expansion slots.

The list price of the new Model 80 is \$13,995. The 314MB Fixed Disk Drive Option is \$6,495.

The Model 25 is available now. The new Model 80 will be available in the first quarter of 1988.

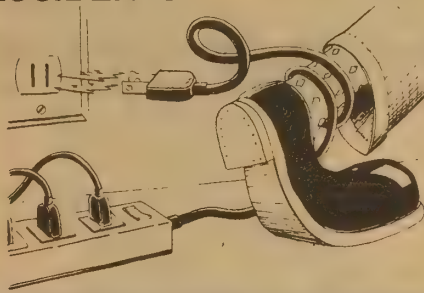
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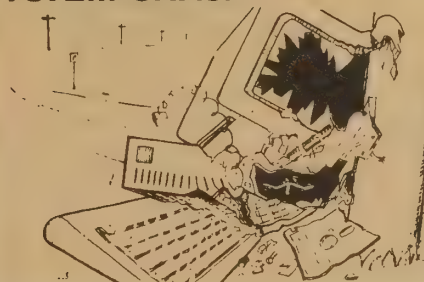
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fortune to its aggressive price cutting in the current workstation war. CONTACT: John Loiacono, Press Relations, SUN, 415/691-6424

NeXT Vs. Apple

PALO ALTO, CA (NB)—*Macweek* reports that NeXT Inc.'s prototype computers have been spied running UNIX and Macintosh software—a good trick given that Steve Jobs, the man behind NeXT, could violate Apple's copyright on the operating system if this is true. Apple's got the right to inspect the workstations before they reach the market, based on an amicable settlement to a lawsuit Apple filed against Jobs when he left. So it's clear this matter will have to be settled before the machines are finished. Word is that work is not progressing smoothly—and could be several months behind schedule. The latest talk around the Valley is that NeXT is aiming for a September unveiling of at least one workstation at the Uni-Forum Conference in Anaheim in September.

And what can we expect? *Macweek* says the two machines, a low end and a high end model, will be based around the Motorola 68020 and 68030 respectively. The low-end version is to be priced at \$3,000, aimed at the university markets, have two to four megabytes of memory, and a palette of 16.6 million colors.

Apple/Acius Collaboration

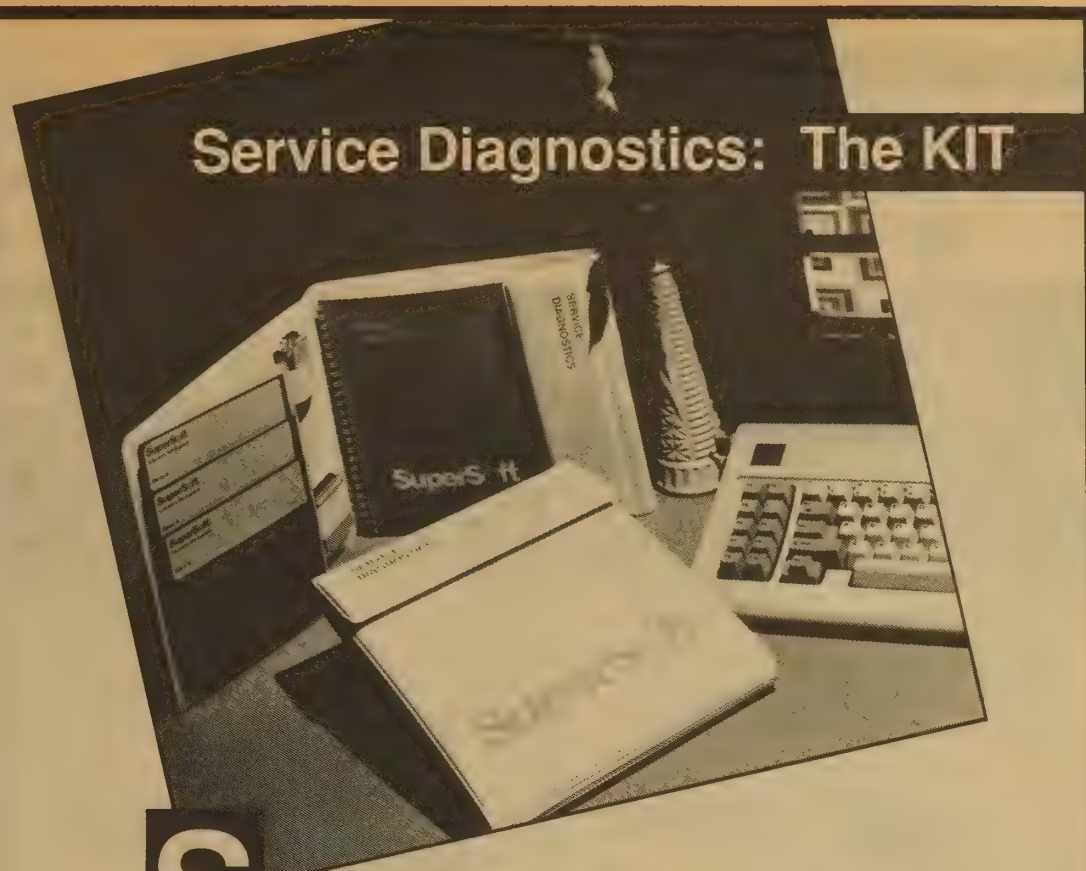
CUPERTINO, CA (NB)—Word is that Apple is teaching its own sales force to sell Acius' 4th Dimension database product, despite the fact that Apple gave it up to its former software manager's new firm rather than sell the product itself. According to the *San Jose Mercury-News'* G. Pascal Zachary, Apple has struck a new alliance with Guy Kawasaki's Acius, and clearly has high hopes for the program, which has won rave reviews. Acius has sold the program to 350 software developers, who are writing vertical applications for it, and has managed to do what Apple feared it could not—get the program to market fast. Best of all, Apple can show clean hands to Acius rival Ashton-Tate. By not marketing the product through Apple's Claris software arm, Apple stayed friendly with, among others, Ashton-Tate, which expects to come out with a version of dBASE for the Macintosh in September, and plans to demonstrate it at the MacWorld Expo in Boston August 11-13.

Fax From Apple

CUPERTINO, CA (NB)—*Macweek* reports that Apple has designed a low-end, standalone fax modem for Macintosh Plus and a plug-in 9600 baud fax modem for the SE and Macintosh II. Both peripherals eliminate the need for a conventional facsimile machine and send documents directly to a similarly equipped Macintosh. The announcement is expected to be made at the MacWorld Expo in Boston on August 11. Apple's no fool when it comes to lucrative markets. The fax market is currently worth an estimated \$2 billion per year. DEST, Intel, and Microtek Lab are reportedly preparing similar fax modems and scanners.

AST/Apple Laser Wars

IRVINE, CA (NB)—AST Research is about to introduce a PostScript laser printer priced \$2,000 cheaper than the Apple LaserWriter, sparking speculation that all may not be well between Apple and AST Research. Clearly Apple may be forced into a price-cutting war once the AST TurboLaser/PS ships in September. The laser printer



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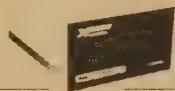
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will be priced at \$3,995. The LaserWriter sells for \$5,799. Meanwhile, Apple is preparing an introduction of its own—a non-PostScript printer, based on its own QuickDraw graphics system—aimed at the low-end market.

HP Releases Mac Scanner, Color PC Printer

PALO ALTO, CA (NB)—As forecast in last month's NEWSBYTES WEST, Hewlett Packard has unveiled a Macintosh interface kit for the HP ScanJet desktop scanner, which enables the ScanJet to operate with the Mac Plus and SE. The scanner scans and stores a full-page image at 300 dots per inch in 20 seconds. Software provided with the interface kit enables the images to be cut, copied, pasted, zoomed, and manipulated a la MacPaint. The ScanJet interface kit is priced at \$595—that's in addition to the ScanJet itself, which is \$1,495.

Hewlett Packard also introduced a color graphics printer, the HP PaintJet, which is designed to print-out documents for the ubiquitous desktop presentation market. Lotus, Symphony, MultiMate, Framework, MS-Chart and Word, and a variety of other software packages will have drivers for the new printer, according to HP. The printer, which is not called a plotter, produces a graphics resolution of 180 x 180 dots per inch, produces a page in about four minutes, and will run you \$1,395.

Plaintiffs Win In Osborne Lawsuit

SAN JOSE, CA (NB)—A group of 13 investors in Osborne Computer Corporation, who bought \$10 million in Osborne stock warrants before the firm's expected public offering in 1983, have won back at least part of that investment. In a trial involving two lawsuits, the Santa Clara County Superior Court jury has sided with the plaintiffs, who fingered the "reckless and slipshod" work of the Arthur Young & Co. accounting firm, which was responsible for inflated and erroneous financial figures which gave everybody the impression Osborne was doing well.

Court records revealed the audit showed a \$69,000 operating profit for fiscal 1983 when in fact the firm had just lost \$3 million. This independent audit was conducted poorly, contended the investors' attorney Paul Dawes. They "messed up and then covered up" their negligent auditing. Within months of the Arthur Young forecast, Osborne canceled the public offering and filed for Chapter 11.

Another victorious plaintiff was a former Osborne director, Robert Bily, who also charged Arthur Young with negligence. He was awarded \$1.1 million by the jury.

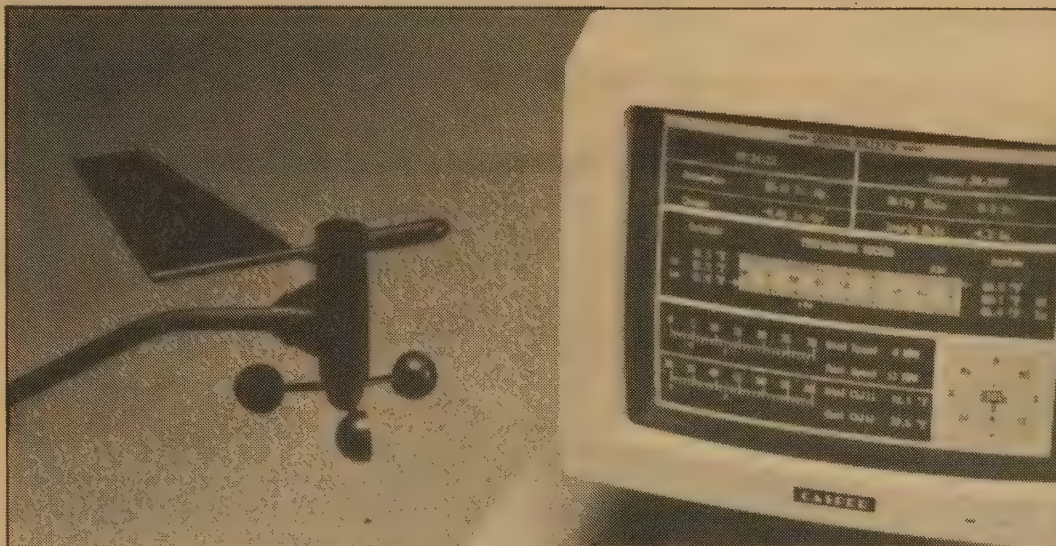
While both Adam Osborne and Arthur Young himself were originally charged with fraud, both were acquitted of that charge.

This was the comment from Arthur Young & Company partner Jim Farris, "I don't believe it is a fair verdict and we have every intention of appealing."

Mergers And Alliances

SCOTT'S VALLEY, CA (NB)—Borland International has agreed to merge with Ansa Corporation, maker of the Paradox data base product. The deal, which makes Borland the fifth largest software company in sales in the U.S., came as a surprise to most analysts, who point to the two companies' wildly diverse products and approaches to marketing. Borland is the leader in low-priced packages that sell to consumers; Ansa, of Belmont, CA, sells a very expensive, \$725 database that sells to

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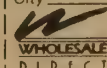


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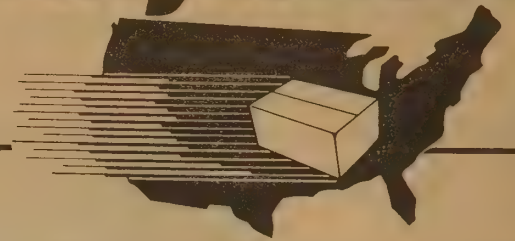


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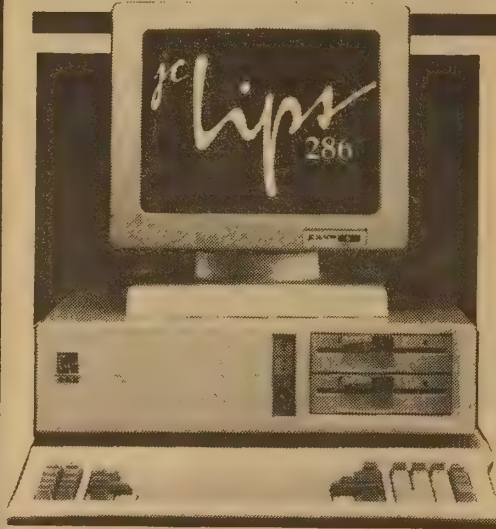
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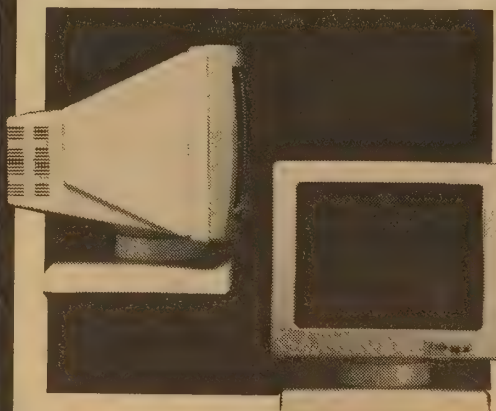
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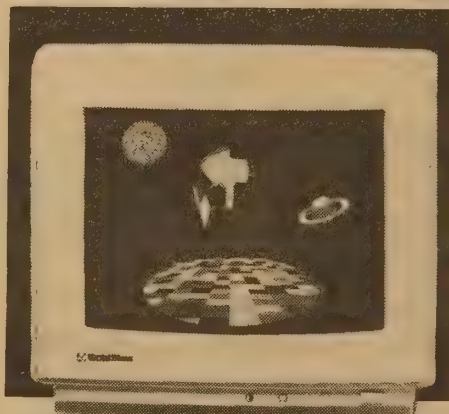
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high-level corporate customers. So why the merger? "This is a strategic alliance," says Borland's President Philippe Kahn. "We now have in place the technological, financial, and managerial resources to build a strong software company for the years to come." In other words, it was time for Borland to branch out.

If the deal is approved by Borland shareholders, Ansa will be a wholly owned subsidiary of Borland. Ron Posner, the ex-Ashton-Tate manager who left to start Ansa, will remain president of Ansa and, along with venture capitalist Ben Rosen, is expected to take a seat on Borland's board of directors. Posner will also become executive vice president of sales for Borland. The combined companies will be worth an estimated \$250 million.

Meanwhile in Mountain View: "It's time to do bigger things," says Living Videotext's President Dave Winer in a prepared statement. That he's done. Living Videotext, maker of ThinkTank, has been bandied about as a hot takeover prospect for weeks. Symantec of Cupertino, whose most famous product is the Q&A file management program, has merged with Living Videotext in a deal about which neither side will disclose financial figures. The agreement calls for Living Videotext to become an independent subsidiary of Symantec, and to retain Winer as the unit's president. Winer says he'll begin vigorous development of network communication software as his first priority.

What does the merger bring to both sides? Living Videotext gets the benefits of Symantec's strong management and established PC lines. Symantec gets a booming, small company with strong Macintosh products and fresh ideas. Winer, apparently, couldn't be happier. "This merger renews our commitment to be one of the largest and most influential Macintosh developers in the market."

Interestingly enough, Living Videotext has just moved to a new address, Easy Street, in Mountain View. CONTACT: Kandes Bregman, LIVING VIDEOTEXT, 415/964-6300

Apple Calls Software Company "Claris"

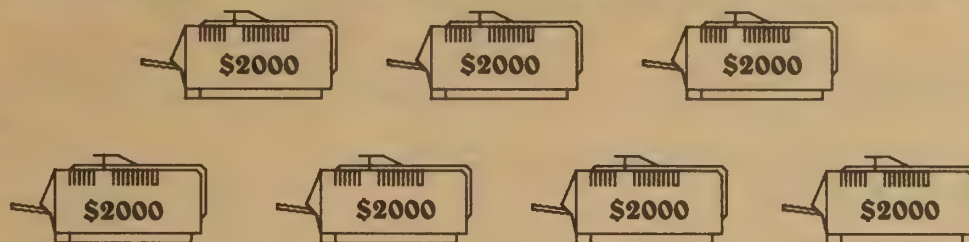
CUPERTINO, CA (NB)—Next time you see the name "Claris" on a software package, remember it's actually an Apple product, at least for now, until newly christened Claris Corporation is strong enough to become an independent company.

Why "Claris?" It reflects the "clarity and distinctiveness and to remind us that shaping the future requires a clear vision," says its President William Campbell. That vision is still being shaped, as its current offerings are Apple software packages, but eventually it will include software from other vendors as well as originals. One of Claris' newest team members is a product developer from the hotbed of creativity, Xerox' Palo Alto Research Center—Yogan Dalal. He will serve as vice president of product development. By September 1, Claris' small staff will move to a new headquarters in Mountain View.

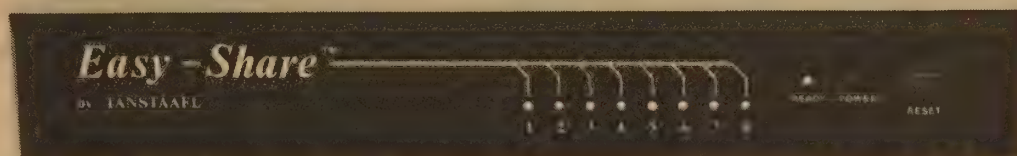
Bargain Prices On UNIX PC

SAN JOSE, CA (NB)—When it was first released in 1985, the AT&T UNIX PC was heralded as a breakthrough in low-cost UNIX computing with an MS-DOS option. Today the machine is virtually being dumped on the market at ridiculously low prices, one reseller claiming he's buying the 7300 model units, which include a 67 megabyte hard disk, two megabytes of RAM, a Motorola 68010 microprocessor, documentation, and other extras for \$1,900 each—roughly a third of their original selling price. This news comes from NEWS-BYTES columnist Denise Caruso, who says her

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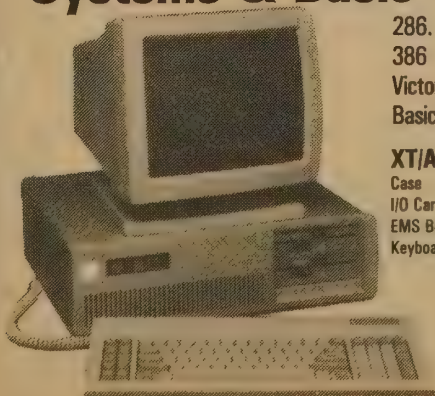


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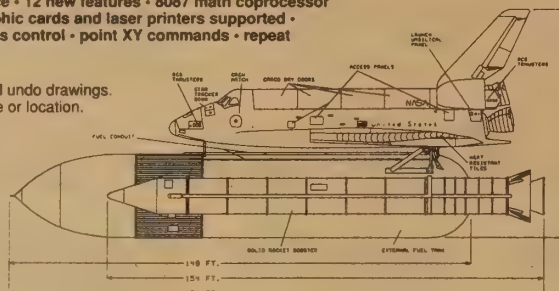
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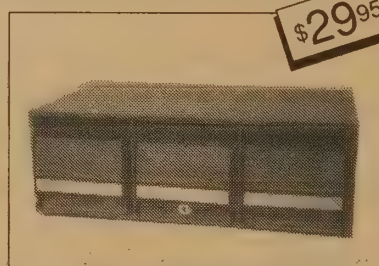
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source adds that you can now pick up an MS-DOS card for the PC, originally sold for \$700, for just \$140. Seems that Convergent Technologies, which had to eat excess inventory that AT&T decided not to buy, has reportedly sold its load to a third party. CONTACT: CONVERGENT TECHNOLOGIES, 408/434-2848

Atari Delays PC, Mega Releases, Enters Music Market

SAN JOSE, CA (NB)—"Later on this summer is the best I can say. The Mega ST will be here a little sooner," Atari spokesman Neil Harris told NEWS-BYTES regarding the miss of a U.S. launch date for the company's new PC-compatible and souped-up ST.

According to Stewart Alsop's PC Letter, which keeps track of vaporware, Atari had projected an April unveiling for the PC, and later changed the intro date to July, which also saw neither machine in stores. Harris explains, "We are shipping the Mega ST in Europe already. They got first crack at the first batch that came in. We're now ramping up production for the U.S. market." The Mega ST, to be priced at \$1,500, will look like a particularly good deal when matched with the Atari Laser printer, also \$1,500, which has a projected release date of September. As for the \$699 Atari PC, another low-priced unit, it will have 512K of memory, one disk drive, built-in Enhanced Graphic Adapter standard, built-in printer port, modem, and mouse ports. Monitor and hard disk are extra.

Atari has signed up 50 music stores nationwide to carry the 520 and 1040 ST, and plans to sign up another 200 dealers within the next few months. "The response was overwhelming," says Atari's spokesman Neil Harris. "It's a natural fit," adds J.J. Brown, vice president and general manager of Atari's U.S. operations. He says the ST is the computer of choice among musicians because of its built-in MIDI interface and low price. "We really hit a gold mine in this one," says Harris. While not the only machine used by musicians (the Macintosh and Amiga are contenders), the Atari ST is now supported by a variety of software that enable musicians to store, play back, and mix sounds from a variety of electronic instruments. CONTACT: Neil Harris, ATARI, 408/745-2160.

E-mail Connectivity

CAMPBELL, CA (NB)—Ever want to send an electronic letter to someone who's not on the same system you are? Say you want to send a document to someone who only has CompuServe, while you only have The Source and MCI Mail. Trouble, right?

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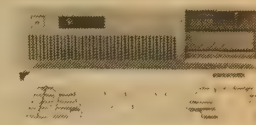
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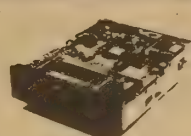
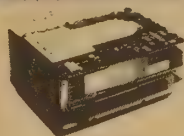
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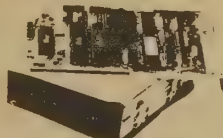
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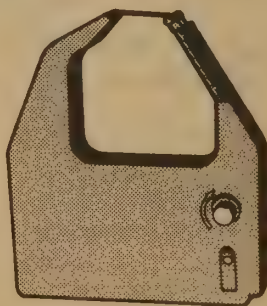
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SVIC says it can use donations of magazines, books, newsletters, and journals for its archives, and your donation is a tax deduction. **CONTACT: SILICON VALLEY INFORMATION CENTER, 408/277-5752**

Eagle Flies Again

SAN DIMAS, CA (NB)—When Eagle finally went belly-up one year ago, it left thousands of mourners. The firm's inventory of several hundred disassembled computers went to Campbell Electronics, which is now offering repair and replacement of Eagle computer parts, as well as free technical support. And get this—the company is not only servicing these orphans, it's planning to start producing one of the models!

Butch Campbell, the firm's founder, believes the machines should not have died out. "They're great machines!" he says of existing Eagles, which were among the first MS-DOS clones. Within the next few weeks he promises to have more on whether or not he can secure a license to make at least one species of Eagle rise from the ashes. **CONTACT: Butch Campbell, CAMPBELL ELECTRONICS, 714/592-4611.**

Businessland/Apple Ad Campaign

SAN JOSE, CA (NB)—Businessland and Apple Computer have teamed up to spend \$1 million to promote the Macintosh SE and II through Businessland retail computer stores, according to Computer Reseller News. The weekly says Micro-soft, 3Com and other major vendors will join in to promote their compatible products in the promotion scheduled to start August 14. The plan calls for Apple representatives to be stationed at Businessland locations for product demonstrations, cash incentives for Businessland salespeople who sell Apple products, and a great deal of print and radio advertising.

Unisys Unveils New Products, Strategy

SANTA CLARA, CA (NB)—Unisys announced BTOS TeleCluster, a computer networking system which plugs into and shares your existing phone lines. It's based on ClusterShare, software and a plug-in card which will set you back \$2,100-\$3,200 for a base station and \$375 for each additional PC.

Also new is BTOS II, a new multitasking operating system for its B-25 line of workstations. The company says it "provides full support of the protected mode operation of 80286 and 80386 microprocessors," meaning it gets the most out of the newest chips. Unisys is also adding a switch to its screens so they'll look more like Macintosh to the user.

Executive Vice President James A. Unruh also

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discussed his company's strategy, keeping both the old Burroughs operating system and offering standards like OS/2, DOS, XENIX and UNIX as well. The sales force has been divided vertically by type of customer, as in finance, government, offices and factories. (Translation: What do you want? Sure, we do that.) CONTACT: Wayne W. Adams, UNISYS, (215)542-4673

Apple, H-P Good For Working Mothers

CUPERTINO, CA (NB)—Mom and apple pie have traditionally gone together as a great American tradition, but mom and Apple Computer? For the second year in a row, *Working Mother* magazine has put Apple among the top five best firms in the nation for working mothers. The magazine says Apple's pay, advancement opportunities, flexible scheduling, job sharing, and other benefits make Apple Computer a great place to work while raising kids. The magazine did not mention Apple's proposed on-site day care center, which has mysteriously been placed on the back burner at the company.

Hewlett Packard ranked fourth among California companies good to mothers. Women make up 44% of the workforce, they're given flexible working schedules to accommodate leaves for children and maternity, as well as time to get to work after the day care center opens. HP was given special praise for naming Nancy Anderson a general manager while she was on maternity leave.

Other computer firms mentioned in the survey as leading the nation in progressive treatment of employed mothers were Digital Equipment and Syntex Corporation.

California Computer Privacy Bill

SACRAMENTO, CA (NB)—The California Assembly Elections, Reapportionment and Constitutional Amendments Committee will vote on a bill to extend First Amendment-type search and seizure protections to electronic communications on August 19. Appeals are going out to the public to write letters of support now. The measure, titled ACA 36, was introduced by Assemblywoman Gwen Moore. If passed it will provide the same privacy rights to electronic communications as are provided to press and verbal communications. The measure, which amends the state constitution, would specify that personal information stored in electronic information systems and computer databases be included in search and seizure restrictions provided by the constitution. Send letters of support to the following people: Chairman Pete Chacon, Assembly Elections Committee, State Capitol, PO Box 942849, Sacramento, CA 94249; Assemblywoman Gwen Moore, State Capitol, Sacramento, CA 94249

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Telecomm Alliances

CUPERTINO, CA (NB)—Tandem Computers has announced a joint agreement with GTE Corporation to develop large scale telecommunications systems for government and business. The deal is expected to make Tandem, famous for its nearly faultless data networks, and GTE, which owns 760,000 customer service phone lines in the Pacific Northwest, a formidable force in the lucrative government market.

Meanwhile, networking workstation-maker 3Com Corporation has merged with Bridge Communications, maker of systems that link various kinds of mainframes and terminals, in a stock swap worth an estimated \$193.1 million. Both

Laser printers are NOT created equal.

$$\sum_{n=1}^{\infty} \left[\left(\text{CARTRIDGE FONTS} \right)_n + \left(\text{SOFT-FONTS} \right)_n \right] \cdot \text{LASER PRINTER} \ll \int_0^{\infty} f(x) \cdot \text{QMS PS-800+} dx$$

The summation of all loadable cartridges, and downloadable soft-fonts, for the HP LaserJet II is much, much less than the scalable PostScript fonts integrated into the QMS PS-800+.

where n = all font numbers
where x = point size
where f(x) = scale font operator

Some approximate equalities of the QMS PS-800+:

The QMS PS-800+ is now available with PostScript version 46.1 which includes emulation modes for HP LaserJet Plus, HPGL, and Diablo 630.

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PS-800+ $\approx$ LaserWriter Plus

Differences
(PS-800+ > Speed)

PS-800+ $\approx$ LaserJet Plus

(PS-800+ > Font Selection)

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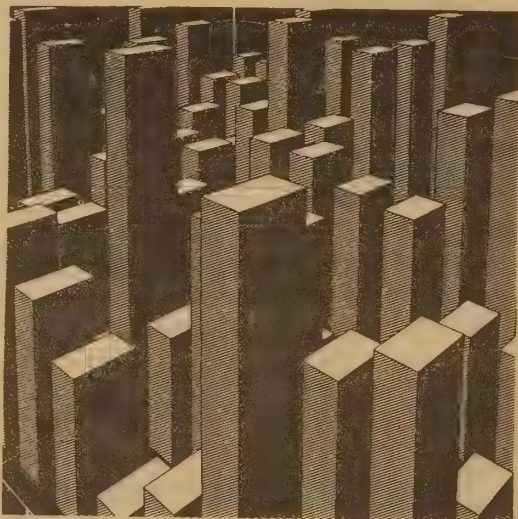


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Computerworld Focus

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You can create a graph from a spreadsheet or database. Then insert the graph and the spreadsheet between text in a single word processing document right on the screen. Type labels right on the graph. And then print the whole document.

Select DBMS data using Enable's powerful query language and copy that data into a word processing document. Or insert the data into a spreadsheet and Enable will automatically expand column length and modify formulas.

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SPEED YOU'VE NEVER SEEN.

Enable does not sacrifice speed for functionality. The system is written entirely in Assembler language and utilizes reentrant coding.

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Since the MCM is the sole interface between you and all the modules, you only have to learn one consistent set of commands and menus to use the entire system.

You may not even need to open a manual first. Clear, English language menus complete with explanatory messages are available in every module. Menu options may be selected by the traditional cursor method or with a single keystroke shortcut. As you grow more experienced, expert commands bypass the menus. And there are convenient macro commands for the really sophisticated.

For those just getting started, Enable has online tutorials distinguished by their clarity and depth. And the manual teaches you, step-by-understandable-step, how to use all that the system provides. For online assistance, at any time, just press the F1 key to get all the help you need.

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Here's another enormous advantage: all the time and money you've invested in first-generation packages won't go to waste. Files created by dBASE II or III, Condor3, PC-File III, Lotus 1-2-3, VisiCalc, Supercalc-3 CAL, SYLK, MultiMate, DCA, WordStar, EasyWriter, PeachText, Volkswriter, ASCII or DIF can be used automatically in Enable without conversion or re-keying. Similarly, Enable can create output files in the proper format for many of these products as well.

ENABLE = POWER.

Enable lets you run one application program, one communications program and one printing program concurrently. So you can do spreadsheet analysis, print a monthly report and receive stock quotes over the wire—all at the same time.

Enable's powerful macro facility saves you time and keystrokes in all modules. Macros may be automatically recorded as the steps are executed; even edited using full word processing capabilities. You can, for instance, create a macro which produces a report containing data selected from your DBMS file. Every time the macro is executed, the resulting report is updated with the latest information from your database.

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ENABLE. HERE TODAY, HERE TOMORROW.

Enable is software you can grow with. By learning the system with easy menus and graduating to expert commands. Using more and more of its complete functionality. Exploring the many possibilities of its integration.

Enable defeats software obsolescence. Your product updates will not only include important new features, but — because of the MCM's flexible design, its "open architecture" — your system will be continually enhanced to take full advantage of changes in micro-hardware.

Unlike other integrated software, every one of Enable's modules gives you virtually everything you'd expect from the best single-purpose, better programs. And, often, more than you'd expect.

WORD PROCESSING (Including Enable/Check™)

Enable's Word Processing application gives you the full functionality of a dedicated word processor, including such features as:

- Comprehensive editing and inserting; adjustable margin and tab settings; rulers; block copy and move
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- Fast draft mode, final "what you see is what you get" mode
- Text attributes like boldface, italics, underline
- Subscript and superscript
- Soft hyphenation and hard space
- Mail merge
- Automatic indexing and tables of contents
- Multiple character sets including foreign, Greek and special characters
- User-defined shorthand
- Automatic reformatting as text is deleted, inserted or moved, or new margins are established
- Half or full page vertical scrolling
- Built-in calculator
- Character transpose command
- Proportional spacing
- Use of menus or expert commands and function keys for users with various levels of expertise
- File compatibility with MultiMate, WordStar, EasyWriter, Volkswriter, DCA, PeachText and DIF
- Multiple column format
- Outline assist
- Conditional page breaks
- Enable/Check spelling checker (based on 80,000-word Proximity/Merriam-Webster Linguibase™).

SPREADSHEET

Enable's Spreadsheet performs every "what if?" function you'll need and does so with startling speed.

- Take data directly from DBMS files or enter it on the keyboard
- Perform standard financial and statistical manipulations plus more
- User-configurable spreadsheet with 6 options up to a maximum of 65,025 cells
- Transpose rows and columns
- Highlighting of related cells to immediately show the impact a change will make
- Simultaneous display and updating of spreadsheet and graph
- Variable column length to accommodate loading of DBMS data
- Row/column sort (primary and secondary)
- The "step" feature to manually or automatically change the value in a target cell
- Combine multiple spreadsheets into one and use word processing capabilities to add labels and footnotes

- Takes advantage of an 8087 or 80287 math co-processor
- Split-windowing (either horizontal or vertical) to display two different segments of a spreadsheet
- Automatic reprinting of column and row borders when spreadsheets require more than one page to print
- Hidden columns
- Compatibility with Lotus 1-2-3, Symphony, Supercalc-3 CAL, SYLK (Multiplan) VisiCalc and ASCII.

GRAPHICS (Including Perspective™)

Enable's Basic Graphics automatically produces high resolution black-and-white or medium resolution color graphs.

- Create graphs from either spreadsheet or DBMS
- Size, shape and position graphs using windowing
- 9 graph types: vertical bar 3-D vertical bar, vertical stacked bar, 3-D vertical stacked bar, pie exploded pie, line, xy and open-high-low-close
- Y-axis scaling
- Simultaneous display and updating of spreadsheet and graph
- EGA full-color support
- Landscape/Portrait mode

Plus Perspective . . .

- 32 three-dimensional and 15 two-dimensional pre-set graph types, from DBMS or spreadsheet data
- Full control of visual data presentation for creating custom graphs quickly and easily
- Printed to the resolution of the device (not limited to screen resolution).

DATABASE MANAGEMENT

Enable's DBMS provides sophisticated, flexible and easy-to-use data entry, file management, information retrieval and report generation.

- Menu-driven field definition
- Comprehensive "paint the screen" input and report forms design
- Full-screen data entry with extensive and automatic field editing and validation
- "Virtual" fields (computed or copied) eliminate data redundancy among files
- Automatic duplication of data from one record to subsequent records
- Over 65,000 records per file with up to 254 virtual and calculated fields per record
- Data may be entered from the keyboard, copied from other files, computed or supplied by the system
- Retrieval of records by the contents of any field including both textual and numeric data
- Rapid search and retrieval using Boolean logic, arithmetic and relational operators, and "wild cards"
- VERIFY, COPY, UPDATE and MERGE commands for sophisticated maintenance
- Sorting all or selected records in a database on up to 8 fields
- Sophisticated report generation using either the menu-driven method or the powerful Procedural Language
- Reports may include fields from multiple databases
- File compatibility with dBASE II and III, PC-File III, Condor3
- Interwindow copy: Spreadsheet to DBMS and Word Processing to DBMS
- Query by example
- Automatic updating/editing of linked fields across all related databases
- Updating multiple databases from a single input form.

TELECOMMUNICATIONS

Enable's Telecommunications gives you easy access to your company's large computer, other personal computers or online services.

- Automatic sign-on using stored "Set-ups" — enter your connection protocol just once and then press a few buttons to make that connection again and again
- Auto sign-on using alternate Setup if first try unsuccessful
- "Quick-Connect" for infrequently used systems
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Enable's Master Control Module provides the integrated environment for the five modules.

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companies are doing well financially, and the merger should create a firm with \$150 million in annual sales and 1,000 employees. Bridge is expected to become a subsidiary of 3Com, which will be the combined firms' moniker. This is the third merger try for 3Com, which earlier this year was jilted by Convergent Technologies and Centram Systems West. "The third time's the charm," joked 3Com's Executive Vice President William Krause.

Brøderbund's Business Advantage

SAN RAFAEL, CA (NB)—Ever wonder what it feels like to be Lee Iaccoca of Chrysler or Rod Canion of Compaq? Then Brøderbund's new *Business Week's Business Advantage* game is for you. The game provides you with competitive data, market share, strategic company positioning, and economic and industry trends for GM and for Compaq. You're supposed to use this information to decide strategic and tactical moves. The program then puts your decisions through a simulated year of activity and gives you the good, or bad news, explaining through an Expert's Insight feature what happened and why. We're told Brøderbund will provide versions for other companies, based on profiles drawn up by *Business Week* magazine. The game is only for IBM, Tandy, and 100% compatibles, at a retail cost of \$50. CONTACT: Joanna Witzel, Brøderbund, 415/492-3200

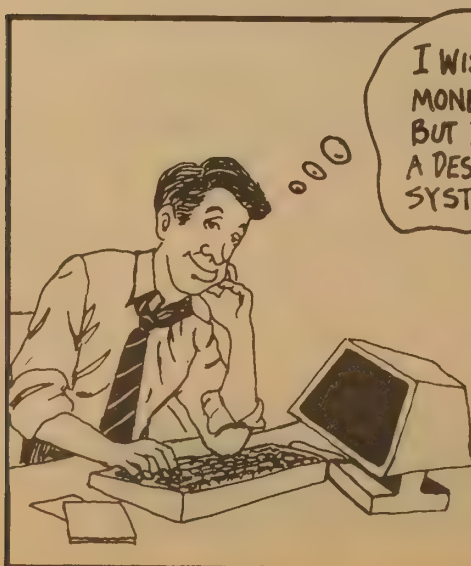
Simple Online Communications

NEWPORT BEACH, CA (NB)—We've just received a press release touting a new product that cuts through the confusing series of different online commands required to connect to nearly every electronic mail service. Called Connex, this software for PCs and compatibles, autoconnects any PC to MCI, Western Union EasyLink, AT&T, Zipnet, Network, GENie, The Source, Dialcom, Delphi, Infomaster and Compuserve, requiring the user to input only a few commands, and to learn none of the hosts' commands. Not only that, but this software apparently looks up the addresses you want to reach, automatically saves your mail to disk, can send up to 5000 personalized e-mail messages on hundreds of systems, and even allows you to keep a personalized database of names, telephone numbers, and addresses. The whole package consists of five diskettes and a 172 page manual, and costs \$206. CONTACT: PRODUCTIVITY PERFORMANCE INC., 714/631-0515

Jasmine Technologies Alive And Well, Thank You

SAN FRANCISCO, CA (NB)—Macintosh hard drive maker Jasmine Technologies is not bankrupt and has no intention of being bankrupt, despite rumors to the contrary floating around Southern California. Jasmine's Mark McIntosh says the rumors started at a San Diego user's group where a certain member, working for rival CMS Enhancements, told of a Jasmine demise. But CMS Enhancements emphatically denies planting such a story, and told the BIX news service that its only inkling of the roots of the rumor was a story in Computer Reseller News which told of a bankruptcy filing by one Grant Jasmin, whose company is Advanced Logic Systems.

Jasmine is alive and well and plans to be at MacWorld in Boston with an 80 megabyte Macintosh drive that beats Apple to the punch.



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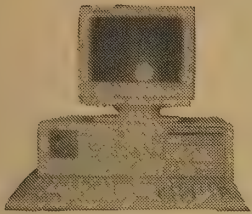
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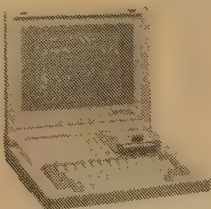
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4

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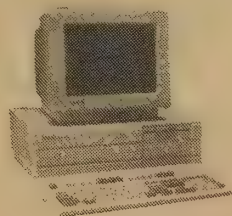
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Karl Koessel PC World
December 1986



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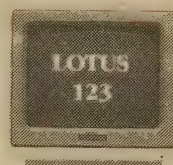
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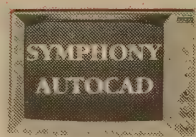


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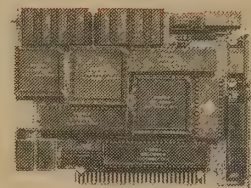


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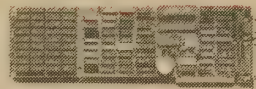


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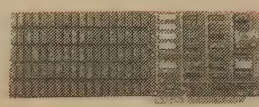


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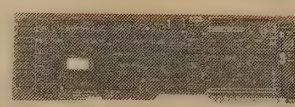


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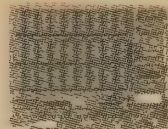


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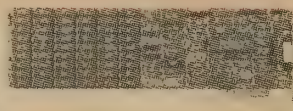


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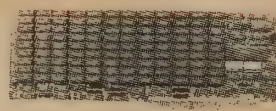


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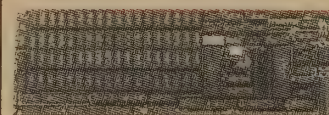


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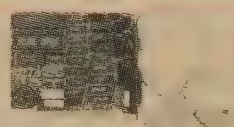
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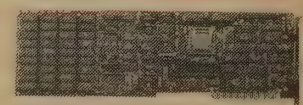
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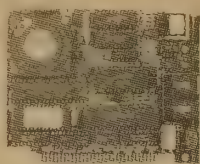


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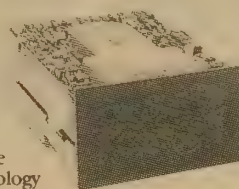
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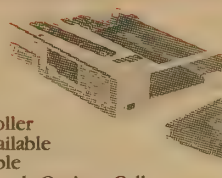
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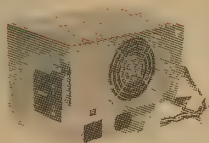


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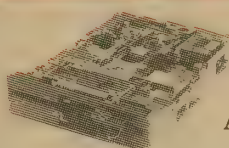


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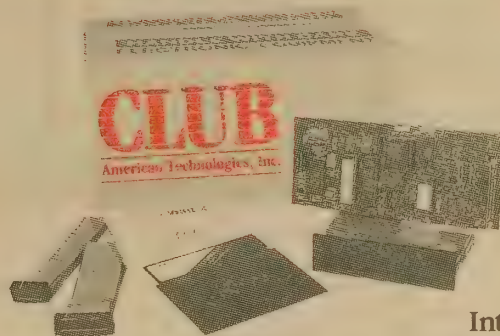
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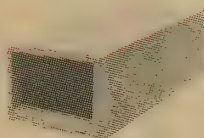
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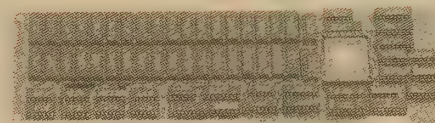
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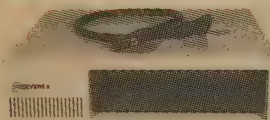


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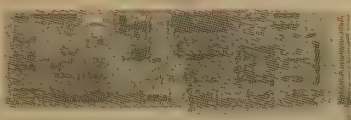
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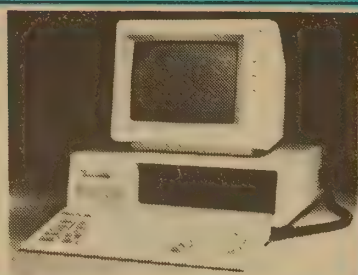
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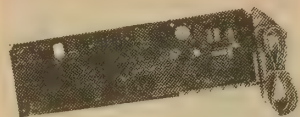
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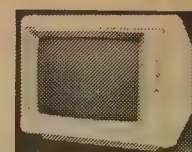
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By Dana Blankenhorn

Japan Dominates Business Trade Show

ATLANTA (NB)—The National Office Machine Dealers Association Show, just wrapping up here, demonstrated how and why Japanese companies are now dominating American markets. Not only did Japan-based companies have 85% of the floor space, but they had the most interesting items. Panasonic outdrew IBM and AT&T combined with its full-color copiers. And Panasonic salesmen were not only ready to deal faster than you can say Joe Isuzu, they were ready to deal on the office supply houses' terms, with full support.

Sharp, Ricoh, Toshiba, and Canon all had booths larger than the largest American booth, the kind you need a map to get around in. American computer companies, by contrast, never tailored their programs to office supply needs, and those American booths that were here were empty.

Not only have the Japanese won the office suppliers' business, including their computer business, they've won their hearts. Keynote speaker Tom Peters drew cheers with his attacks on American laziness and Congress' protectionist legislation. "The Japanese have been unfair. They learned the English language before they came over here and tried to sell to us," he said, to loud applause. At a press briefing he was even more explicit. "The last time a protectionist act of this magnitude was passed, it was followed by a depression and a war." CONTACT: Dana Andrus, NOMDA, (816) 941-3100

Compaq Attacks Gray Market, Denies PS/2 Clone

HOUSTON (NB)—Compaq, known here as "Big Gray" is evidently not happy with the big gray market for its machines. Vice President for Sales and Marketing Michael Swavely has told Computer + Software News that the company has been steadily cutting out dealers who sell new Compaq machines to discounters for resale. Earlier this year Compaq had roughly 1,950 dealers in the U.S. Swavely told the magazine he hopes to cut it down to near 1,700. The company's dealer development group says 1,800 would be more like it. (The irony is that Compaq machines are currently in short supply at some authorized dealers.)

Meanwhile, the company denied that it's making a PS/2 compatible, as some computer publications indicated after hearing President Rod Canion in New York a week earlier. In fact, press spokesmen insisted, all Canion said is that Compaq's existing machines can run current versions of Microsoft's OS/2 operating system. So, to get the power of a PS/2 in supporting up to 16 CPUs at once, buy a PS/2 with its Micro Channel Architecture. At least for now. CONTACT: Debra Glow, COMPAQ, (713) 370-0670

Complex Color Images In 2K

ATLANTA (NB)—A new set of algorithms from Michael Barnsley and Alan Sloan of Georgia Tech lets complex color images be transmitted in just 2,000 bytes each. The algorithms were developed under a combination of DARPA (for "Star Wars") and Georgia Tech grants totaling \$780,000. Details were published in a recent issue of "Science News." A company started by Barnsley and Sloan, Iterative Systems, will try to exploit the new algorithms commercially.

Barnsley explained the new technique to NEWS-

BYTES this way. "You can almost think of it as an analog-digital converter. You take extremely high-resolution images, compress them into digital strings, and get back an image of any resolution you choose." CONTACT: Michael Barnsley, GEORGIA TECH (404) 894-2733

MacFax Coming

BOCA ROTON, FL (NB)—Gulfstream Micro Systems Inc., which is in the process of being acquired by DEST Inc., plans to complete development of a Macintosh facsimile product in the next few months. The new product will compete with J T Fax from Asher Technologies (a unit of Intelligent Systems MLP).

As with its IBM product, EZ-Fax, (price: \$1,495) Gulfstream's Macintosh facsimile product will likely be able to work in background, so you can

send and receive facsimile files, even print them out, without interrupting your other work.

CONTACT: Greg Friedman, GULFSTREAM MICRO, (800) 443-0500

By Ken Maize

IBM Profits Slip

IBM has also reported that the company's profits continued to slip in the second quarter, dropping 10% compared to second-quarter earnings in 1986. It was the fifth consecutive quarterly decline in profits for Big Blue. Profits were \$1.178 billion for the quarter (\$1.95 per share), compared with \$1.305 billion (\$2.12 per share) in the second quarter last year. Revenues for the quarter rose

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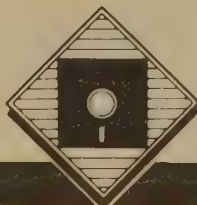
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On The Firing Line

Hard Disk Management

Several Solutions For Common Hard Disk Problems

By Stephan Wickham
and the Diamond Software Technical Team

We spend a great deal of our time in the shop at Diamond Software working with hard disk problems. We also see most of the hard disk utility programs that come out. Several of these programs really stand out as being extremely helpful with hard disk problems.

Prime Solutions' *Disk Technician* is a software package that prevents, detects, repairs and recovers hard disk data losses automatically. A typical hard disk contains over 100,000,000 individual bits. Any of which can go bad. This isn't surprising considering that there are hundreds of circular tracks packed onto your hard disk and they take up a width about the thickness of a human hair. The disk head positioning mechanics will expand or contract depending on the temperature of the unit. Tracks written when cold tend to be positioned towards the inside of the track and those written when warm towards the outside of the track. *Disk Technician* is rather unique in that it constantly monitors the alignment of the tracks. When even the slightest change is detected it goes to work. *Disk Technician* realigns the entire track by completely rewriting it, including the track and sector ID areas. This track is retested and will be put into use only if found to be good. Otherwise, the track is locked out from further use and the data relocated.

Disk Technician will attempt to recover data losses caused by a bad sector, track or cylinder. The program, as a last resort, will indicate what files need to be restored from backup media if it can't recover the data. *Disk Technician* has a memory resident module that is installed when the program is first run. Afterwards, every time you boot off of your hard disk, SafePark becomes memory resident and moves the hard disk heads to a safe zone after one to fifteen seconds of disk inactivity (user adjustable). However, this does have the effect of slowing down hard disk access in some situations. Some of you will find the park routine useful to help avoid disk head crashes.

Users should be cautioned in using a number of copy protected programs together, such as *Lotus 1-2-3*, that use a protection scheme which intentionally puts a bad cluster in the File Allocation Table. *Disk Technician* can keep track of up to three of the bad FAT clusters, so count the number of copy protected programs you will be using.

We found that the first time *Disk Technician* was run that it could take several hours for the very detailed testing and that the daily testing only took a few minutes. This results in a hard disk that is checked very thoroughly, bit-by-bit the first time around and then sampled thereafter. This program might be of help if you are having bad luck with your data loss and are using a hard disk that you might suspect of eating your data.

We fault *Disk Technician* for its copy protection, which is a poor idea for utility software. In

spite of this shortcoming, *Disk Technician* will be a great aid for users suffering from mysterious hard disk data losses. If Prime Solutions were to drop its copy protection we would give this interesting program a better recommendation.

In our last column we mentioned The Personal Computer Support Group's Lightning hard disk optimizer. We have since found an optimizer from Golden Bow Systems, called VPOT, that is less expensive and many times quicker. We were amazed when using VOPT on one of our Wyse 286 machines with a Control Data 30MB Wren hard disk, that it optimized the disk containing 1,300 files in about four minutes. This included about 400 file moves. In contrast Lightning took about 45 minutes with fewer files on a 10MB hard disk.

Instead of moving all the files like less sophisticated disk defraggers, VOPT uses an elaborate "best fit" algorithm to provide the quickest disk access speed. This makes the optimization incredibly fast. Included with the VOPT program is VMAP, which displays a hard disk storage utilization map; VSEEK, for a neat graphic display of your hard disk seek time; VMARKBAD, for scanning your hard disk to mark bad clusters; VBENCH, for benchmark testing your system and VSPEED, a graphic gauge for your floppy diskette speed and sector spacing. There is also VRD for checking for floppy diskette errors; VPRTS, a memory resident high speed PrtSc utility and VTSR, a module to display resident program status.

Optimizing can be done every day with little or no risk. This should take only a few seconds and can be implemented from your AUTOEXEC.BAT file. Golden Bow Systems recommends 512K of RAM for fast operation. We were able to make it work with as little as 256K. Larger memory, however, should be available on most users IBM-type machines these days. A real bargain at a list price of \$49.95.

We see hundreds of hard disks in our shop here of every size and brand you can imagine. The latest trend on most of our corporate machines is the use of hard disks larger than 33 MB. This presents a problem as MS DOS uses a value that is incoded throughout it which is 16 bits wide to indicate sector count (the largest value that can be indicated with 16 bits is 65,535). The standard way data is stored is in 512 byte sectors, so if you multiply 65,535 by 512 you end up with 33.55 MB, which is the DOS limit. Thankfully most of our machines are Wyse 286s, which use a special version of MS DOS 3.2 that has been modified to painlessly jump the DOS 33 MB barrier. Some other compatible manufacturers are now offering this feature, soon you will need this ability with applications growing larger and hard disk prices rapidly coming down. Users can expect that their DOS will someday support large drives directly. Until then there are very workable solutions.

There are some wonderful prices right now

on Seagate ST251 40MB hard disks and a few others. In some cases the 40 MB drives cost less than a 20 MB with roughly the same performance. People are currently rushing to get these drives. To get drives over 33 MB in machines in the past we used a combination of a controller made for the drive being installed and a DOS patch utility such as Speedstor from Storage Dimensions. The problem with Speedstor is that it partitions the drive into a minimum of two partitions. We made the first partition bootable and kept it around 2 MB, enough to store DOS and some utilities. The second partition carried the balance. A workable solution, but not as slick as just one big drive.

Then along came Vfeature Deluxe from Golden Bow Systems. Now we can have machines with drives larger than 33 MB, with one large bootable partition. Vfeature works by changing the sector size in the IBMBIO.COM initialization code in addition to correcting a programming bug in the write logic. It supports a huge variety of hard disks with any number of cylinders and up to 16 surfaces. A nice touch is that Vfeature Deluxe does not depend on the default drive parameters that are found in the controllers BIOS, so most ST-412/506 type controllers should work. Vfeature Deluxe is easy to use and has some nice features, such as the ability to span two disk drives.

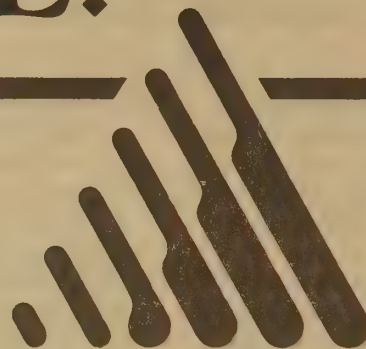
We have found one undocumented characteristic that can be quite useful if you are willing to experiment. Huge increases in access speed (hyperspeed) can be achieved by structuring data files to fall on the second hard disk. The first drive will hold the FAT (file allocation table) and position the first drive read-write heads near the FAT area, which results in almost instant data access off drive two. Amazing but true. Vfeature Deluxe belongs in every large corporation that is using PCs and is planning to use large hard disks. This program rates a ten, like most Golden Bow products.

Harvard Total Project Manager is the only known program that won't work with Vfeature Deluxe and that is because of some rather odd memory management in that package. Everything thing else should run great on a disk configured with Vfeature Deluxe. We have most of the software products that span 33 MB and the one we reach for when we need to do a large drive job is Vfeature Deluxe. A powerful program for a list price of \$120. A special price is available for *MicroTimes* readers. Call for details.

Call Diamond Technical at (415) 633-2589 if you have a hard disk related problem that you need help with or a special controller, machine, hard disk configuration. We have worked with most of the IBM drive combinations out on the market and are aware of most of the problems that you might encounter. If you need one of these programs, a hard disk or controller call Diamond Software's sales department at (415) 633-2588.

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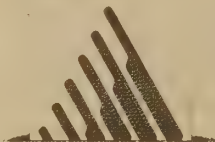
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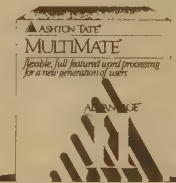


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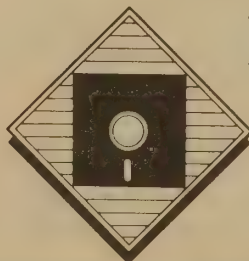
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4.3% to \$12.8 billion from \$12.3 billion last year. The slippage in profits was in line with what analysts had predicted. IBM hopes sales of the PS/2 will help turn the tide for the rest of the year.

IBM Fights For PS/2, Closes Out PC Line

IBM took some unprecedented steps in the last two weeks to dispel rumors the PS/2 is in trouble, and to push its users toward accepting it as “the” new standard in personal computing. Entry Systems Division President William Lowe told financial analysts that the company’s closing out its XT 286 and PC AT lines in the next two months, and claimed that 250,000 of the machines had shipped by the end of June. The latter announcement is literally unprecedented (IBM never discusses its shipments), and self-serving in the extreme. Lowe used the words “shipped” and “manufactured”—not “sold.”

The result is that users who don’t want to pony up \$2-8,000 right now for new IBM machines are now working on the Compaq standard, sometimes called MS-DOS. New Compaq-compatibles continue to be announced (Olivetti announced a new line in the last week) and users continue to demand them.

Meanwhile, IBM has introduced another version of its struggling laptop computer. The new machine, to be called the PC Convertible Model 3, features a backlit LCD screen and a new power supply to conserve battery power. IBM unveiled its first laptop, the PC Convertible Model 1, in April 1986 to resounding yawns. Then IBM followed with the Model 2, with about the same results. The new Model 3 will hit the road for \$1,695, and Big Blue has also cut the price of the Model 2 to \$1,395 from \$1,695.

Toshiba Apologizes, Congress Growls

WASHINGTON (NB)—The Toshiba Corp. has taken out full-page ads in 91 newspapers across the U.S. to apologize for selling secret submarine technology to the Soviet Union. “Toshiba Corp. shares the shock and anger of the American people, the administration and Congress at the recent conduct of one of our 50 major subsidiaries, Toshiba Machine Company,” the ad said. The company said it “profoundly apologizes” for the actions and would never do it again.

Meanwhile, the House Armed Services Committee pounded Toshiba by clearing for final action in the full House a bill that would keep Toshiba products off the shelves of military base stores. The panel also told the Pentagon to avoid any new contracts with Toshiba, which could be a big blow to the company. Toshiba hopes to get at least a piece of a major Air Force contract for laptop computers. The language on Pentagon business is non-binding. The panel rejected an amendment by Rep. Duncan Hunter (R-Calif.) which would have banned Toshiba from Pentagon sales. “Toshiba made it easier for the Russians to kill American service people,” Hunter said. The Senate has already passed a Toshiba procurement ban, by 92-5.

Lotus Plans Release 3

WASHINGTON (NB)—Lotus Development Corp. will bring out release 3 of 1-2-3, running on both MS-DOS and OS/2, next year, according to Jim Manzi, Lotus chief executive officer. The program will run faster, offer three-dimensional spreadsheets, and improved graphics, Manzi told a government group. Lotus will also offer 1-2-3G,

with an icon interface, Manzi said, once IBM releases Display Manager.

Lotus also announced that it will acquire Datext Inc. from Cox Enterprises of Atlanta. Datext provides business information on optical disks, competing with Lotus, which started offering business and financial information on optical disks last March.

Lotus said it rang up record sales of 1-2-3 during its second quarter, which led to net earnings of \$16.3 million (36 cents per share) on \$94 million in sales. That compares to profits of \$11.8 million (25 cents per share) on \$66.2 million in sales for the second quarter of last year.

IBM Forms Application Software Division

ARMONK, NY (NB)—International Business Machines Corp. has formed a new division to work on application software and a new marketing support organization aimed at mid-range computer systems. The new Application Systems Division will have worldwide responsibility for developing and acquiring software across the IBM line. It will also help outside firms that develop application software for IBM systems. A major focus of the software division is likely to be IBM’s weak offerings in the middle of the market, where it is getting clobbered by Digital Equipment Co.

Canon’s CAT Information Appliance

NEW YORK (NB)—Canon U.S.A. has unveiled a new word processor (aka “microcomputer”) that features new cursor control technology developed by Apple Computer refugee Jef Raskin. Canon says the machine offers the first improvement in cursor control since the mouse and has named the machine the “Canon Cat.” It’s a computer that’s supposed to be virtually idiot-proof, a true “information appliance.”

At the touch of a button, a user can switch between word processor, calculator, or telecommunications functions. Special “leap keys” are designed to move across the screen twice as fast as a mouse. “You never have to remove your hands from the home row,” Raskin told NEWSBYTES. The telecommunication function (the computer has a built-in modem) enables a caller to go back and forth between voice and data communications at the touch of a button. The machine will have a disk drive, but it will primarily be for archival use, not loading applications.

An operator can use the Cat’s two “Leap” cursor control keys to “almost immediately locate information in a stored text of approximately 80 pages,” says Canon. “With the Leap keys, text can be edited, moved, restyled, underlined, boldfaced and even checked for spelling with only a few keystrokes.” Canon officials say the Cat will be available around August 1, at a suggested retail price of \$1,495. A Cat daisy wheel printer will be available for \$500. CONTACT: INFORMATION APPLIANCE, 415/328-5160.

Apollo Cuts Workstation Prices

CHELMSFORD, MA (NB)—Apollo Computer Inc., following the earlier lead of rivals Digital Equipment Corp. and Sun Microsystems, has slashed the prices on its engineering workstations. The result is further blurring of the lines between high-end microcomputers and the specialty workstations, used in engineering and computer-aided design. Apollo cut the prices on the Domain Series 3000 with 19-inch monochrome screen 50 percent to \$5,990. The company added that it will

roll out a \$4,990 Domain 3000 with a 15-inch monitor in December. Analysts expect the three major workstation makers will all unveil new, top-end machines in the next few months.

Business Executives Still Computerphobic

NEW YORK (NB)—“Computer familiarity still runs low in the executive suite,” observes the *Wall Street Journal*. Indeed, Thompson Baker, chairman of Florida Rock Industries, says, “I don’t need a computer to tell me a thing is good or bad.” John Courtney, president of the software firm Computer Task Group, doesn’t have a PC on his desk. “I have no reason to have a keyboard at the office,” he says.

But, says the paper, electronic mail may seduce the executives into the computer world. Alltel Corp., a telecommunications company, expects 80% of its senior executives will want terminals once the company’s regional offices are linked to headquarters.

Data For The Masses

NEW YORK (NB)—Public Data Access Inc. has government and demographic statistics available on diskette from a wide number of government agencies, at \$50 per disk. The disks run on IBM PCs and clones, with 1-2-3 or dBASE III. The company said it has over a million pages of files from the Census Bureau, the National Center for Health Statistics, the Environmental Protection Agency, the Nuclear Regulatory Commission, the Federal Election Commission, and other government agencies. Diskettes are also available providing economic, political, social, demographic, environmental, and public health information for every state, congressional district, county and zip code in the U.S. CONTACT: Public Data Access Inc., 30 Irving Pl., New York NY10003, 212-529-0890.

Government Spending Patterns: Micros Are In, Toshiba May Be Back

WASHINGTON (NB)—The go-go days of spending on computers in the federal government are gone, reports the *Washington Post*. But personal computers are taking an increased share of the data processing mix. “I think they’re just running out of things to spend it on,” said Robert Dornan of Federal Sources, a consulting and sales firm based in Vienna, VA. The shift toward PC’s, said Gartner Group analyst Ulrich Weil, “has enabled the government to get more bang for the buck and to get some flattening out of the spending curve.” Modern micros, noted Weil, “can do jobs that maybe 10 years ago you needed a big mainframe for, so on a unit price things have gotten much cheaper.”

According to Federal Sources, overall spending on computers in the federal government has risen from \$9.1 billion in fiscal 1982 to \$16.5 billion in the current fiscal year. Spending is expected to hit \$17.1 billion next fiscal year. But that will represent a growth of only 3.7%, compared to the normal double-digit growth patterns of earlier years.

There are hints and rumors that the Pentagon may be about to relent and send some business Toshiba’s way. The Defense Department has been furious about Toshiba’s sales of computerized milling equipment to the Soviet Union, enabling the Soviets to make their submarines quieter. But heads have rolled at Toshiba, and both the giant company and the Japanese government have been engaged in major groveling. Prime Minister Yasu-

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hiro Nakasone called the diversion to the Soviets "a gross betrayal" and hastily dispatched Minister of International Trade and Industry Hajime Tamura to Washington for personal apologies to President Reagan and Congress.

The French news agency AFP has quoted Toshiba's new president Juichi Aoi that the company "recently received an inquiry from the [U.S.] Department of Defense" about whether the company can supply laptops produced in the U.S. Final bids for the Air Force laptop contract were due at the end of July. Toshiba was widely rumored to be in the finals, prior to the disclosure about the sale. A Pentagon source told NEWS-BYTES, "Don't be surprised if Toshiba ends up supplying laptops." Congress is currently considering banning Toshiba exports to the U.S. for two-to-five years, but the administration opposes the legislation.

Founder's Son Takes Over At Wang

LOWELL, MA (NB)—The key to the future for troubled Wang Laboratories is President Frederick Wang, eldest son of founder and board Chairman An Wang. Says a profile in the *Wall Street Journal*, "Bright and talented—but naive and arrogant on his way up—the 36-year-old Mr. Wang must turn around a larger computer company still shell-shocked by a sudden reversal after a decade of spectacular success." After record profits of \$210.2 million in 1984, Wang's net fell to just \$15.5 million in 1985. The company expects to report a loss for fiscal 1987. So far, says reporter William Bulkeley, the younger Wang is getting good reviews for his ability to delegate and his candor. But a key task is to move out of the shadow of his legendary father and demonstrate that he can really run a major company. A former Wang product manager expressed the problem that will dog Wang, "Would Fred have the position if he wasn't Dr. Wang's son? It's unlikely."

Pictograms For Mac

MALVERN, PA (NB)—Cricket Software has a new piece of software that will produce pictograms, those cute little graphics that use pictures along with numbers, such as six wine bottles representing six million bottles of wine sold. The product, *Pict-O-Graph*, also lets a user color portions of the image, to represent divisions. The program uses bit-mapped images from internal libraries and users can also create images. It will also import data from spreadsheets and word processing programs. *Pict-O-Graph* also has drivers to output high-resolution slides to a series of film recorders. *Pict-O-Graph* is \$195, and the film recorder drivers are \$200 each. The program runs on Macintoshes with 512K of RAM and also runs on the Mac II in color. CONTACT: Cricket Software, 30 Valley Stream Pkwy., Great Valley Corporate Center, Malvern, PA 19355, 215-251-9890.

Merrill Lynch Bullish On CompareRite

CAMBRIDGE, Mass. (NB)—JURISoft's *CompareRite*, which can compare two documents on a personal computer and identify differences between them, is winning raves from the editorial services department of Merrill Lynch Corp. "We save time because we can see very quickly just where changes have been made from one draft of a document to another," said Henry Hecht, manager of the department. Hecht said the company used *CompareRite* during the writing of the chairman's letter for the annual report. "The letter was



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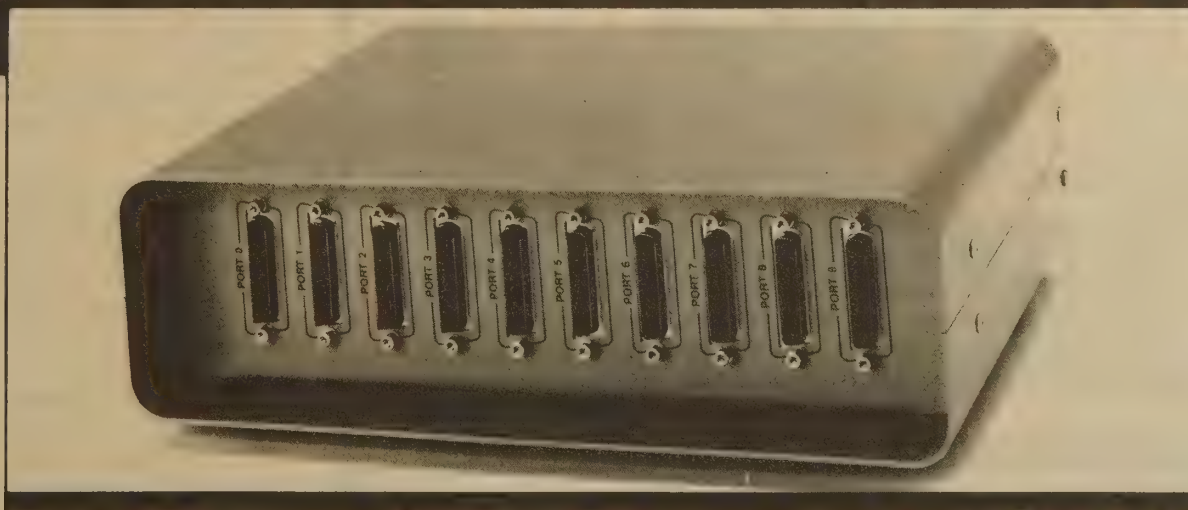
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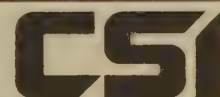
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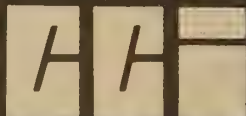
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rewritten several times," he said, "and each time CompareRite made it easy to see where changes had been made." According to JURISoft, CompareRite reads documents in all nine major word processing file formats. The program is \$129.95. CONTACT: JURISoft Inc., 763 Massachusetts Ave., Cambridge MA, 02139, 617-864-6151.

IRS Bearish On Home Computer Deductions

WASHINGTON (NB)—The Internal Revenue Service continues to interpret its rules on when an employee can take a personal deduction on a home computer in the narrowest fashion possible. In private ruling 8725067, the IRS has nixed the following argument: You are a computer analyst for a large firm, required to be available at any time to fix problems with a system that links manufacturing, sales and distribution centers. Without a home computer, you would have to drive 30 to 50 miles to fix a problem when the system has crashed. That ought to fit the IRS requirement that an employee may not deduct the cost of the personal computer unless it is used for his employer's convenience and required as a condition of employment, right? Wrong! The fact that it's more efficient for you and your company to use the home machine doesn't mean that you require it to do the job properly. Deduction denied.

NEWSBYTES JAPAN

By Masayuki Miyazawa and Keizo Yamamoto

Japan Deplores Senate Action

TOKYO (NB)—Most of the Japanese newspapers (7/22) just devoted their front pages to report the U.S. Senate's resolution of the trade bill. The Tokyo-based major economic daily the NIKKEI said in an editorial, "The U.S. Congress is resorting to a most dangerous measure. The country is heading towards unilateralism, abandoning the multilateralism of the Paris-based trade agreement, GATT." At a press interview, one Japanese industry leader said, "The protectionist law is really regrettable. We expect U.S. leaders' final decision to be fair, based on a world-wide view." Meanwhile, they also added, "Japan needs to make a strong determination to protect free trade, acting on what it has promised."

Epson Moves Equity Production To US

TOKYO (NB)—Seiko-Epson (Nagano, Japan) is going to produce its personal computer at its Portland plant in the US by the end of July. The company plans to roll out 4,000 sets of its 16-bit PC EQUITY III+ per month. Epson has virtually ceased export of the computer to the U.S., due to the 100% tariffs imposed on Japanese personal computers this past April. CONTACT: Epson America, Inc., Torrance, 213/373-9511.

Popular Kanji Processor

TOKYO (NB)—A Japanese software house, Just Systems, has decided to open the interfaces and the specifications of its Kanji-conversion front-end processor (software) to the public. The ATOK is currently used in some applications, such as the company's best-seller Japanese word processor Ichitaro, and Japanese Multiplan. With the technology disclosure, more application software makers are expected to adopt ATOK in the near future. Thus, the company expects to rake in the royalties. CONTACT: Just Systems, 3-16 Higashi-Daikoucho, Tokushima-shi, Tokushima-ken 770, Japan □

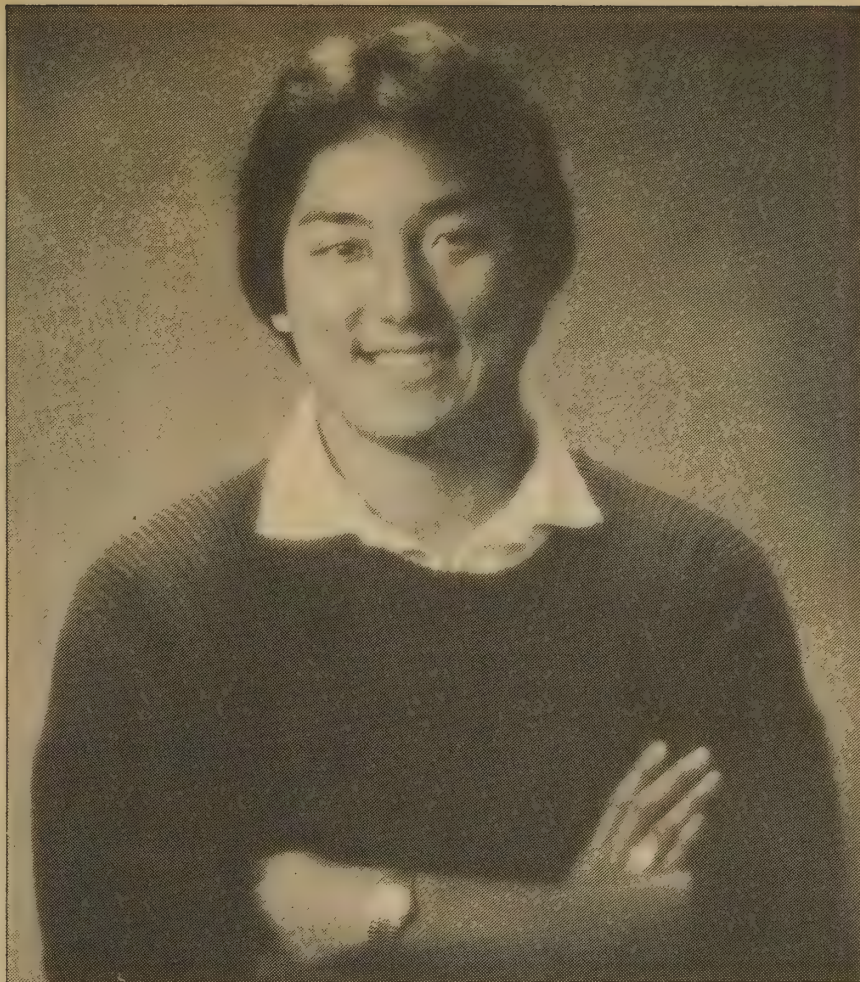


PHOTO: COURTESY ACIUS, INC.

Erstwhile software evangelist Guy Kawasaki has a new software company, with the revolutionary 4th Dimension database as its first product.

Guy Kawasaki:

Mac Databases Enter The 4th Dimension

By Mary Eisenhart

Guy Kawasaki, formerly Apple's premier software evangelist and now president of Acius, Inc., is demonstrating the charms of 4th Dimension, his company's database for the Macintosh, to an appreciative audience at the Apple Business Seminar.

Gleefully showing off the program's power and flexibility, using his wife's hypothetical personnel file as an example, he gives her a hefty raise, moves her desk to a prime window spot on the seating chart, places her on the organizational chart, and stores various employee data. Finally, it's time to add her digitized photo to the file. He clicks the mouse and voila! the famous MacPaint geisha. Everybody howls.

"My parents wanted me to marry a nice Japanese girl..." he deadpans.

When we interviewed Kawasaki last year (May 1986), he and his intrepid cohorts were tirelessly campaigning to induce third-party software developers to create products for Apple's computers. In the interim, Apple has created a soon-to-be-independent company to market current Apple-label software, and abandoned its plans to market the French ACI's

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4th Dimension database, otherwise known as the fabled Silver Surfer. So when Kawasaki finished answering the questions from the audience, we had the chance to get his account of recent events and his thoughts on 4th Dimension itself.

So now you're in the software publishing business. How did that come about?

In March, Apple returned the rights of 4th Dimension to the French company, ACI. The French company was approached by many American

companies like Ashton-Tate, Ansa, Symantec, Microrim, to become their publisher. But, I guess because of their frustration with the Apple relationship, they decided that they wanted to start a company in America, as a publishing company that they started and funded.

So they approached me, and asked me if I knew anybody who could run it. I said, there's two people in the world who could do it, Alain Rossman [another veteran software evangelist] and myself, and Alain is at Radius, so I guess you're stuck with me.

There had been conversations back and forth, but that's when it started. And then on April 1st, actually, I was made a director [at Apple], and on April 4th I resigned, and on April 17th I started Acius.

Where did the name Acius come from?

Well, the French company is ACI, roughly translated as Analysis and Control of Information. So ACI in the United States is ACIUS. I checked the Latin dictionaries to make sure it didn't mean something stupid.

What does this wondrous database do?

This wondrous database, philosophically, allows someone to really control data and/or a personal computer. It's not just a product, it's more a philosophy.

This already exists in a French version?

Yes. It's been shipping in France, an earlier version, for about a year.

What distinguishes it from the other databases that are currently on the market?

It distinguishes itself in its openness and flexibility. There is a 200-procedure programming language within it, and if that language can't do it, you can also use a compiler and write external routines.

It has full implementation of Macintosh graphics, so that you can truly use the ROMs. It really allows you to create truly customized databases or applications.

Will it support multiuser systems?

Yes. There's only one form of *4th Dimension*, and it's either multiuser or single user, and you decide that at boot time.

So you don't have to buy special licenses.

No.

From a user's standpoint, as contrasted to the programmer/system designer's standpoint, what are its advantages?

From a user's standpoint—there are two kinds of users. One is a user who buys it and wants to develop a database and program it and create specific databases. That person gets the procedural language, and the external routines ability, and the MacDraw-like graphics, all of that stuff.

But that's 20% of the users, although they may control 90% of the decisions. The rest of the users, I don't think they really care whether they're using a *4th Dimension* database or an *Omnis* database or a *Helix* database—all they want to do is do their work. And for those kinds of users, what we offer them is the ability to have something that's truly tailored for them. It's transparent—they don't need to know that they're in a database—all they want to do is do their work. So for those users it means less training and less support.

You can design forms in the database?

Yes, or you can draw them in *MacDraw* or *MacPaint* and paste them in.

From a programmer's standpoint, what are its advantages?

The programming language, the ability to very easily do variables, like buttons, check boxes, radial buttons, scrollable areas, custom menus, icons. The procedural language, external routines—also run-times, the fact that the developer doesn't need to have his or her customer own *4th*

Dimension. They can just own a copy of the run-time, which is much cheaper than the full-blown application.

Can it import data files and code from other programs?

Not code. It can import and export .SLK, .DIF and text. And also we can call the serial ports, so you can have mainframe connectivity there.

It imports programming in the sense that you can write a routine in Pascal and MPW, and have that routine work inside of *4th Dimension*. If you mean can it import just somebody's programming and magically make it a *4th Dimension* routine, no. It's for people who write routines outside to bring them in.

How would you contrast 4th Dimension with dBASE Mac?

There are two very apparent contrasts. One is that we are multiuser, in our first permutation, and also that we are run-time in our first permutation. We use a B-tree algorithm, they use a hashing algorithm, but besides all that kind of stuff, it's more important that you see where each company is coming from.

For Ashton-Tate, Macintosh is a source of supplemental income, additional income, hedging a bet—it's that kind of attitude. For Acius, *4th Dimension* and Macintosh are our lives. And it is what's going to make us successful or a failure. So it's not a side-bet for us, it's the whole shootin' match.

And we come from the Macintosh division, and I think one of our key advantages, despite our size, is that we truly know and love Macintosh, because we were part of the structure that built Macintosh. That's the more important difference.

It's been said that Ashton-Tate was one of the main protesters against Apple's marketing 4th Dimension.

As Shakespeare once said, methinks the lady doth protest too much. One of the beauties of working with Apple as a developer is that there are people that you can call and complain, unlike—other hardware manufacturers. And I think that not publishing *4th Dimension* was the right decision for Apple, because it would've upset too many third party developers. So I agree with that decision.

It also has some side benefits, like—it gives me a great opportunity to start a great company. And also I think that by Apple not publishing *4th Dimension*, the publisher of *4th Dimension* can be much more aggressive. Because with Apple publishing *4th Dimension*, they'd have to position it as an applications generator. They'd have to charge more so they wouldn't hurt lower-priced databases. They'd have to do all those things, trying to sell it, trying to position it, and yet trying to protect all their third party developers.

Acius has no such constraints on it. All we want to do is make the best and most popular database. So I

don't have those artificial constraints and guilt feelings—my job is to build a great company with a great product.

So all things considered, Apple gets out of the problem of dealing with its developers, and they get a very aggressive marketer for *4th Dimension*, because I'm going to take *4th Dimension* and do the most aggressive marketing and sales and support that I can. Because that's what I'm on the face of this earth for. Apple's on the face of this earth to sell hardware. It's a very different motivation.

So I think that there may be a day when Ashton-Tate frankly regrets that Apple was not marketing *4th Dimension*.

I hope I can make it come true. There's a lot of David versus Goliath, it's the cult versus the establishment,

with Laurent, one of the aspects of which is a royalty stream. But more important than the royalty stream is, we have to respect his intellectual property, and his programming ability to develop a great product, so he'll do the next revision.

So we can't just buy and skip—we're building a relationship. And when that kind of message goes out to the community, they will come to Acius with great product. Because not many publishers take that perspective.

Do you expect to stay pretty much in the business end of things, rather than the game end?

Yes. Although I must be honest—if we saw a game that justified the purchase of a color Mac II, I'd be very interested. Because that's just a kind

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it's the great product versus the great marketing organization—there's a lot of interesting elements here.

The Macintosh community is a very close-knit community. And it's not how much money you have for advertising and marketing, it's how good your product is. Macintosh is much more word-of-mouth oriented than any other personal computer market.

Does Acius have plans to market other products?

Yes. Acius is a publisher. Our first product is *4th Dimension*, but we will publish other productivity applications.

Are you looking for anything particular at this point?

Just something great. One thing I learned at Apple is that you can't just sit there omniscient and omnipotent, deciding on what's great. The great thing will walk in the door.

I believe that great software is written by one or two people, not by a team. And this product was written by one person—Laurent Ribardiere. We believe that we're not so much acquiring products as building a relationship, so we have a relationship

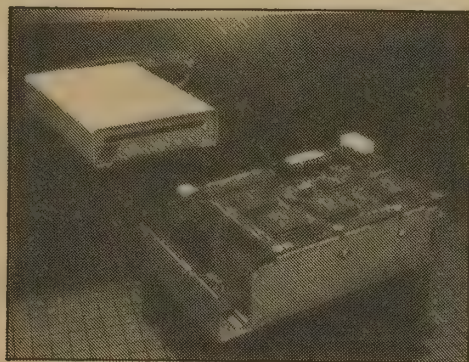
of statement, that we're willing to sell a game that requires a \$7000 system. That's kind of a statement to the world that we just want great product, and if you don't have a Mac II you can't use this product. I would do it, no hesitation.

How long do you think the absence of good color output on the Mac II is going to be a problem?

That's an open issue. Obviously right now you don't have a color laser printer in the world. Everyone wants one, not everyone can afford one.

I think that what the Mac II will do, because it has such good color, and it is affordable—for what you're getting, \$5-7,000 is very reasonable—I think it'll be the catalyst for having color laser printers. If you had to buy a color laser printer before, it was very expensive and you had to buy a very expensive computer. So we just changed the world around—or Apple just changed the world around—so now there's a reasonably-priced color computer that is just crying for color laser printers. So that's what makes it happen. (Acius, Inc., 20300 Stevens Creek Blvd., Suite 495, Cupertino, CA 95014, 408/252/4444.) □

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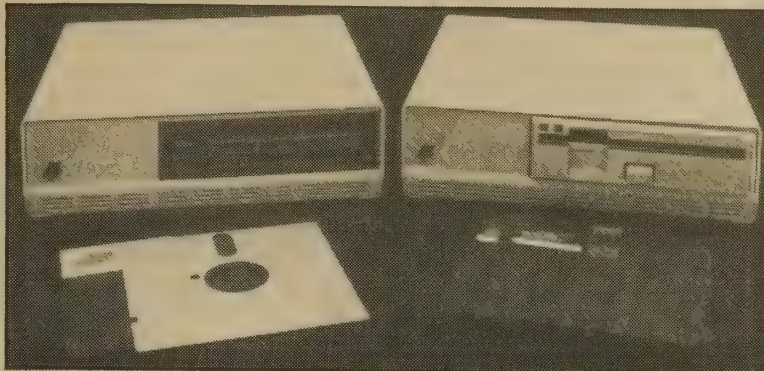
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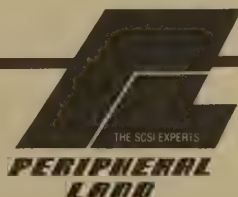
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Ashton-Tate:

The View

From The

Top

By Jeff Spurrier

When you pull up to the massive futuristic art deco building that houses Ashton-Tate in Torrance, you immediately feel a sense of awe. This is a company with substance. And indeed, one look at the corporate stats only bolsters that image: revenues in fiscal 1987 of \$210 million (an increase of more than 73% over the previous year), the leader in the international software marketplace, publisher of more than 40 computer-oriented books and add-in software products, creator of the industry-wide database standard: dBASE II (as well as a handful of other well-known products including dBASE III Plus, Framework II, the MultiMate series, RapidFile, dBASE Mac, and Master-Graphics).

Ashton-Tate is one of the Big Three, the triumvirate that rules the software industry; unlike its fellow titans, Lotus and Microsoft, it is based in California. Ironically, that proximity has brought it more close and critical scrutiny from the local press than either of its Big Three companions. A May 10 story in the *Los Angeles Times* business section raked the company over the coals, suggesting that despite its domination of the database market, the future is not too bright for Ashton-Tate.

"Despite [Chairman of the board and CEO Ed Esber's] projection that sales will climb to about \$300 million this year, Wall Street is worried," said the story by San Francisco writer Victor F. Zonana. "Just last month, Ashton-Tate withdrew a planned offering of two million shares of common stock."

Adding fuel to the fire is the fact that the company has been through a few turbulent years lately. After a rise to prominence that sounds like it came out of Hollywood (a garage beginning in 1981 with less than \$8,000, and a product—acquired in 1983—that was named after the home planet of *Star Trek's* Spock), Ashton-Tate experienced a rocky period even in the midst of rapid growth. Its founder, George Tate, dropped dead of a heart attack at the age of 40 in 1984. In 1986, nine key executives left the company, while co-founder Hal Lashlee resigned from the board of directors and sold off a chunk of his stock—reportedly because of disagreements he had with Esber's direction of Ashton-Tate. In January of this year, Wayne Ratliff, the chief scientist and former vice president of Ashton-Tate (and author of the original dBASE code) left to form his own com-



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pany and began work on a "revolutionary" new database product (entitled Emerald Bay) with Incline Village's Migent Corporation.

The departures from the fold resulted in a series of lawsuits Ashton-Tate filed against former employees and outside companies (some of whom responded with counter-lawsuits) over allegedly misappropriating "secret technology." The most noteworthy were suits between Ashton-Tate and Migent (which is headed up by former Ashton-Tate VP of sales Carl Gritzmacher, and includes some two dozen ex-Ashton-Tate staffers). Migent reacted to Ashton-Tate's claims of a "nefarious scheme" to steal its trade secrets by filing a countersuit claiming that Ashton-Tate was trying to monopolize the database market.

In some press accounts, CEO Ed Esber has been painted as the heavy in the Ashton-Tate wars. The 34-year-old Esber came to Ashton-Tate in 1984 as an executive VP in charge of marketing and sales, and by the end of the year was named CEO and chairman of the board. And despite descriptions as a "buttoned-down" MBA graduate from Harvard Business School, Esber's credentials in the computer industry are well established. He began as an engineer at IBM in 1975, went over to Texas Instruments in 1978 as third-party software manager and marketing manager for two TI personal computers, and joined VisiCorp in 1979 as VP of marketing and sales where (according to his bio) he set up "the first marketing and distribution network in the microcomputer software industry—a success that resulted in his promotion to executive vice president, responsible for the entire strategic direction of the company."

In person, Esber is obviously a man who can play the variety of roles necessary for a CEO of a Fortune 500 company: at once a charmer and a tough negotiator, a man who can dress up as Patton or a football coach or Santa Claus for Ashton-Tate employee get-togethers, yet at the same time initiate blistering attacks on what he sees as "inadequate performances" by former chief employees.

And unlike many CEOs, he's not cloistered away in his corporate offices. During a trip to Palo Alto recently, he stopped by a local software store to see how Ashton-Tate's products were being displayed. He listened as the store clerk explained to a Japanese couple that a 3.5" version of Framework wasn't available. He immediately jumped in, introduced himself as the head of Ashton-Tate and explained that actually there was a 3.5" version available, and he would be glad to send up a copy once he returned to Torrance.

"The clerk just freaked," he recalls with some glee. "You must get out and visit the stores where the products are getting into the end users' hands."

For our interview with Ed Esber, we met in his offices in Torrance. At first his answers were somewhat guarded and reminiscent of the double-speak heard all week at the Iran-Contra hearings, but he soon loosened up, discussing everything from the Migent lawsuits to complaints voiced by dBASE power users.

What is the general direction of Ashton-Tate right now?

Ashton-Tate is one of the three largest software companies. We intend to continue to be a dominant player in the microcomputer software business. That means bringing out new versions for current products for the DOS world, as well as

bringing out the appropriate products in a timely fashion for the OS/2 world. In terms of direction, we are going to continue to provide high quality productivity tools across categories to our end users.

How do you see the general focus of the database market industry-wide?

We're in a transition here from DOS to OS/2, and I'd say we're not going to have as level a playing field as we had going from the Apple II to the PC. But I would say the database area, more than any of the current conventional software product areas, will undergo the most demand to change, to become more like the conventional minicomputer world, from a database engine point of view, from a systems point of view, from a connectivity point of view. To some degree, we all in the DOS world had the luxury of dealing with an unconnected box.

Tomorrow's world in OS/2 will really put demands on the database to help connectivity, get access to data, share data, etc. Independent of the fact that I think that from the initial release of dBASE II to dBASE III Plus in 1985 we continue to give the users dramatic increases in capability—there's still a big gap between what is delivered today in the DOS world and what can be and is required to be delivered in the OS/2 world. And that's the challenge.

The real challenge for Ashton-Tate is to deliver the right products for OS/2. Some people don't believe that we're going to do that. Ashton-Tate has traditionally been underestimated. If you go back through the literature, we've always been underestimated, and we tend to surprise people on the positive side. I'm telling you, that I'm very confident that the products we have in the pipeline and the products we have assembled here—we're going to deliver the right products and we intend to remain dominant both in the dBASE development language area and in providing databases. It

is our feeling that the best way to do that is not to go out and toot our own horn and talk about how good we are and make promises about tomorrow. It is to keep our heads down and execute. Unfortunately, recent industry events caused us to go out and give a peek at what's coming.

How do you view IBM's announcement that they're going to bring out their own database product for the OS/2 systems?

Certainly it's significant that they're bringing an extended edition with their own data manager. But in the future there will be a lot of database engines, and a database engine is really only a portion of what we bring to the end user to give him an application in his development environment. That engine initially is devoid of a lot of things, and there's plenty of opportunity for third parties to add to that engine, sell against that engine, either on the standard edition or the extended edition.

We are going to provide our current and future users the ability to build the kind of applications they want to build. Part of the solution is basically an SQL relational database engine. We will provide that solution, including the SQL database engine; as well as add-on pieces if the user wants to use that particular engine or some other engine.

Is that an extension of the dBASE III Plus idea, of including a full-blown programming language?

Well, dBASE is the most popular development language today for database applications on microcomputers, and we will continue to extend that language. A couple of weeks ago at the Compaq press conference, we basically gave an outline of three products in the database area that we intend to bring out in the future. The first was the next release of dBASE in the DOS environment—call it what you want, dBASE IV, dBASE Workstation DOS, you can call it whatever you want. But it is a significant new release of dBASE for the current world. We also said we would bring out a dBASE workstation product for OS/2, and we said we'd bring out what is called a dBASE database server. Those aren't specific product names. Those are concepts, directions for our end users. Those are three products we said we'd bring out in a timely fashion. We did not give shipment dates, we did not give product titles, we did not give prices. It was a directional announcement—which is what the industry needs these days.

By IBM pre-announcing the extended edition [of OS/2], by people like Lotus pre-announcing their database, what's been caused is a situation where some customers are clamoring to know everybody else's stands. And many of these products couldn't even be given ship dates, because nobody knows for sure when OS/2, Version 1 will ship, nor when OS/2 Extended Edition will ship.

It's almost like playing in the futures market...

It is true that as more and more PCs get into large corporations, if people start looking at the numbers of PCs and software expenditures, that the buying cycle is longer and the approval cycle is longer, and therefore there is a need for some advance information about where you're going.

What was the reaction to the announcement?

I think we got a very positive response to what we said. And I think we added to some of the industry concerns about vaporware. Ashton and a few

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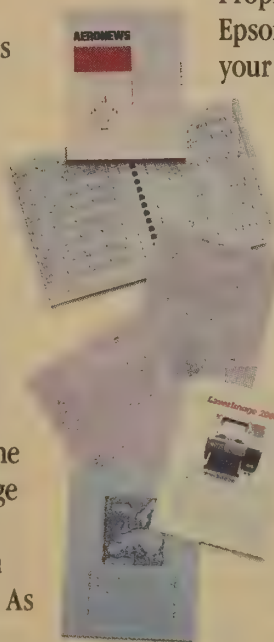
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On pre-announcing products: "I think OS/2 has thrown all the rules out the door, and all of a sudden people are announcing OS/2 products—and in essence, when many of your competitors do that, you are almost forced to do that, because otherwise it might adversely affect your current sales."

other companies were moving in the nice direction of not pre-announcing products intentionally before they're ready to ship. I think OS/2 has thrown all the rules out the door, and all of a sudden people are announcing OS/2 products—and in essence, when many of your competitors do that, you are almost forced to do that because otherwise it might adversely affect your current sales when people say "Well, where are you going? And if you're not telling me, you must not know." They don't say "If you're not telling me, it must be smart."

Generally, however, you don't like to pre-announce?
We don't like to do that, no. Obviously we had announced a product for the Macintosh to be shipped late last year and we had to go back to the world and say we're not going to make that shipment date, so it's not to say instances won't occur in the future—but they weren't designed to be intentional.

How extensive is the movement of Ashton-Tate into the Mac world?

We have stated that dBASE Mac is the first of several products that we will bring out for the Macintosh and that's all we have said publicly. We view the Macintosh market as very important. I am an active Macintosh user myself [he points to the Mac on his desk behind him, which is on. The PC next to it is dark]. Ashton-Tate needs to offer a broad line. dBASE Mac is just our first in a line of products.

What about your activity in the desktop publishing arena?

We intend to bring out a product in the desktop publishing area, but the only thing we stated publicly was that we had formed a relationship with a company called Skisoft. We have not announced nor shipped a product.

I assume you saw the story in the L.A. Times in May about Ashton-Tate. The tone of the story was basically that Ashton-Tate was stumbling and headed for a fall. What was your reaction to that?

I believe a lot of what was said in that story was basically old news. To be frank I thought it was poorly written and poorly researched.

Did you receive any feedback from people in the industry calling you and asking what was going on?

Not really. I didn't receive any calls because of that article. I got more calls from people saying "I saw your face ..." or "You poor guy. Why did they write that story?" In terms of customers, it was a non-event generally, although it was reprinted in several other publications across the country.

How much do you feel the Migent lawsuit has hurt Ashton-Tate?

I don't really think it's hurt us with the customers. It may have caused some perception issues. For instance, one perception is that Ashton-Tate is not very receptive to outside authors, or outside authors might want to stay away because we have a certain legal posture. That hasn't proven to be the case, but I have heard that.

I think if you follow recent events you'll see we won an injunction against Queue Associates Inc., and recently we won a stay in a separate case that Queue filed against us in Monterey. So we have a

history of proving conclusively that the issues upon which we filed this lawsuit are legitimate. Courts generally do not grant preliminary injunctions unless they feel there's a high probability of finding in our favor.

As an outsider and one not privy to all the legal arguments, it seems to me that basically what's at issue here is proprietary knowledge. What is it? Has that been adequately defined?

Well, that is one of the issues. There are many issues and I can only go so far legally in communicating that to you. The broader issue in the industry is what is proprietary—both in terms of specific software, software ideas and thinking that goes on a company's payroll. The latter piece has been an issue since time immemorial in corporations. I can't control your brain. I do pay you to do research on certain issues on my payroll. Do I own your conclusions or not? That's a fuzzy issue. If somebody takes the plan for a new product that's clearly mine, that's a clear-cut case to most courts. The issue in the middle of those two extremes is the look-and-feel issue. I guess the boundaries of one's protection has not been defined totally, and there are several suits in the works that have been filed that will begin to set precedents and boundaries of protection for how software is expressed to the user.

Do you feel like the industry is watching this case?

I think they're watching the Lotus look-and-feel case more. In terms of alleged theft of proprietary secrets, that is an issue that applies to many different companies, and it's a question of how much can you prove, and what can you lay out in terms of history of what happened, when and why. It's further complicated by the fact that it is software, which is less understood than something you might build that's an easy plan, like a piece of hardware.

So basically you think the look-and-feel issue is more of an industry-wide concern?

Yes. I think every company has the right to protect the copyright of technology. The difficulty I think this industry is facing is what is proprietary in terms of interface, in essence, of functionality? That's a tougher one.

And are the courts able to really make a decision?

Well, if you're asking my opinion of the knowledge base in today's legal system, in terms of the look-and-feel case I don't believe there's an adequate knowledge base in the legal system. But, typical of our legal system, sometimes issues come up before the courts have adequately protected them with laws, and we increment them to the right decision. Very rarely does the legal system set a precedent in anticipation of an issue. The whole legal system is designed to solve something after the fact.

How long do you see the battle with Migent going on?

I believe that given Ashton-Tate's "victory" in the only two pieces of the puzzle that have been judged upon or reached the first level of conclusion in the justice system, that an environment is set to potentially resolve the issues.

I saw Wayne Ratliff at a seminar recently and he talked about Emerald Bay coming out later this year. Does that bother you at all?

I do not mind competition from anybody. Including Wayne Ratliff. The issue is how much of Ashton-Tate's secrets or how much of what Wayne sold to the company, is utilized in any potential product he ships.

And you wouldn't really know that until you get a copy yourself and break down the code.

That's quite possible, but there are avenues in the legal system to have third parties look at something in any state prior to announcement, to make a judgment of any potential infringement on anybody else's right.

Have you checked out the general description of what Emerald Bay is?

I'm pretty familiar with what has been said publicly.

People are touting it as revolutionary ...

Have you heard anybody who brings out a new product that hasn't stated it's revolutionary in a particular category? To be frank, I don't understand why you dwell on the Migent issue when the real competition, the real issues in the database area, rest around IBM, Lotus, Microsoft, more than they do around Migent or Microrim or Ansa. The big boys want to play now in this business.

I logged onto the Ashton-Tate Forum on Compu-

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“What we want to do first is make sure we do the job properly in the micro world. Then, and only when we feel we can do a good job, will we move into the mini and mainframe world.”

Serve and asked for questions from board users, and I'd like to throw out a couple of those. Good. That's the first time I've heard of someone doing that. That's a great idea.

“Ask (Esber) why Ashton-Tate has not released a fix for dBASE III Plus's many multi-user problems with indexes?”

It is my understanding that we are addressing as many of those issues as fast as we can. You have to remember that when dBASE III Plus came out in late '85, the state of what was thought of as multi-user art—it's probably primitive in relationship to what is used today. We are continuing to solve those issues, as well as bring out a new version of the product which hopefully will address all the issues.

“All of Ashton-Tate's emphasis seems to be placed either on future developments in database implementation, or in product diversification. SQL, OS/2, extended OS/2 with embedded SQL. WHO CARES!!! What I want to know is what are their thoughts on maintaining their current (developer, sophisticated, non-beginner, “power-user,” system developer) user base? They think their consumer franchise is strong, but in my ex-product manager mind, that franchise is subject to severe erosion if the alternatives (QS, DBXL, Clipper, FoxBase) continue to be more attractive. I don't care a fig for file managers, graphics, MultiMate, Macintosh, or desktop publishing; all that product diversification is doing is leaving the door open for smaller firms committed to concentrating on one market, that of the developer.”

I guess the user base that responded here is the dBASE developer [laughs]! There are probably millions of users who are concerned with word processing solutions and graphics solutions and others.

It is true, as the company diversifies and tries to bring out a broader product line, that it is difficult to meet the needs of the power and sophisticated users. I think Ashton-Tate did go through a period of time a few years ago where it wasn't as responsive and it wasn't listening as much as it needed to to the power users and developers. I think we've come around again. In future releases of our products we intend to meet the needs of these people, and quite frankly we did create, through our sluggishness in increasing the capabilities of our products and in listening to many of the people in the developer community, opportunities for other firms.

I guess I can't get angry or resent competitors who fill voids that we do not fill—either through our own ineptitude or decision making, or sluggishness, or whatever. If there's an opportunity and a customer needs something, somebody's going to fill it. My frustration, if anything, is the frustration of getting us to deliver the products, as opposed to frustration aimed at competitors. You can bet that myself and the rest of the senior management team is endeavoring to make this organization able to deliver on the needs of these people as fast as possible, and thereby not create such ample opportunities for other people in the database world.

“Ask him about his thoughts on the recently announced coalition of alternative dBASE language implementors, that A-T hasn't deigned to join.”

A big question in regard to this is what is in the public domain. I am pretty certain there is not room for a second dBASE standard in the business. Were we extending the language in the performance of our product faster than we have, there probably wouldn't be a need to the degree that there has been for some of our users to capitalize on things that third parties have done. Again, I look on it as a challenge to us to deliver what they ask for to our users quicker. Make no bones about it. Ashton-Tate still controls the dBASE standard. When we add extensions to our language, it is third parties who will endeavor to become compatible. It will not be vice-versa.

“Instead of wasting resources on desktop publishing, why hasn't Ashton-Tate moved dBASE to other environments? Source code compatibility in a UNIX box or a System 3x or even in a 360 environment would sell like crazy. Look at Oracle or SAS. Great companies, great products. Oracle is soon going to own the DEC market and that could easily have been A-T's. And it's not too late.” We have stated several times—at least during my reign or in my watch—that we do have ambitions to move into the minicomputer and mainframe market, but I'll point back to some questions you asked me before. Some of the people were saying, why diversify where you are to meet the needs of the users?

Those two questions taken together, I have to ask you: Do I diversify within the micro computer world or into the mainframe and minicomputer world? And I would bet some of your readers would also question that diversification strategy versus this one.

What we want to do first is make sure we do the job properly in the micro world. Then, and only when we feel we can do a good job, will we move into the mini and mainframe world. Right now, while we might contemplate moving into the minicomputer database arena, the minicomputer database companies are spending a lot of their effort trying to move down into the PC arena. One might ask, is the steam out of the locomotive in the minicomputer database world?

I have a friend who has a small company, one guy at a photo lab. He's played around with dBASE and wanted to know why Ashton-Tate doesn't put out a limited version of the product, one aimed at a small businessman. A demo version for \$25 or something. He wants to be able to test-drive dBASE to a limited extent, to find out if he wants to go through the trouble of learning it, and to see what it can do for him, even on a limited basis. He said he could see it was incredibly powerful, but it was almost a case of overkill for him.

It's interesting you would mention that. If I had to bet today about the number of features utilized versus the number of features delivered—across all products, not just dBASE—I would bet most products are underutilized. I believe we're giving the average user much more than he really needs, but not much more than he thinks he needs. Quite frankly it is the power users who influence these people.

We're constantly pulled in the direction by the power users for more, more, faster, faster. The average user is saying “I wish you could give just what you have in an easier-to-learn-and-use package.” We constantly have to meet these two constituencies' needs. And remember that the average user is highly influenced in what he buys by the power user. Unless we meet the power user's needs, he won't recommend the product back to the average user.

I would think that the wider the gap grows between those two camps, the more complaints you'll see.

Well, interestingly enough, in the database area that gap is probably the widest, because the database product is one of the most sophisticated. The question is, do we ever split, in a major way, the capability into capability for developers only and capability for the average user only? What we have done is some special things for developers where we've added to the current product and given it to them. We haven't necessarily cut away from the current product and given it to the average user. But it's something to be considered.

What was it like coming aboard at Ashton-Tate? It seems like it would be like trying to hitch a ride on a tiger.

It certainly was a challenge. What I saw at Ashton-Tate when I was contemplating working here was a lot of potential. It seemed then (in mid-'84) that the company was attracting a lot of talent and there were a lot of products in the pipeline on which to build. Both of those things provided opportunity and also room to work on other things I saw that weren't necessarily what I would have liked to see. Most of the latter were related to running this thing like a business—having budgets and plans and review systems for the employees that gave them adequate feedback about what they're doing, and reward systems, etc.

In regard to that, do you think that Ashton-Tate had grown to be a big company without anybody realizing it?

That's one way to characterize it. Companies in this industry grow very fast. Those of us who are used to Silicon Valley or Route 128 find it hard to put that into perspective when you think of other companies that take 20 or 30 years to get to a \$200

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ASHTON-TATE

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million level. Ashton-Tate reached over \$200 million in six years. It is very hard to put the systems in place and have them there long enough for people to understand them. You suddenly reach a new level and you need a new system. It's also hard to throw away fast enough bureaucracy that is not needed at the next stage—because it hasn't even been absorbed yet. It's still propagating and you might want to pull it back.

With the death of George Tate, and your arrival, and the departure of some executives, do you feel you were cast in the role of a villain?

No. I think that to me personally, the press has been very fair. Our user base has been fair and the financial community has been fair. I think there was a lot of confusion about what was going on here primarily because we choose a certain level of communication on certain issues.

Let me talk about the executive departures. Ashton-Tate believes in a high caliber of professionalism. Around the departure of people, we subscribe to the common euphemism of "resignation" when there is a disagreement. I will go on the record as saying there hasn't been a vice president that has left this company since I've been here that hasn't been asked by me, personally, to leave. There's a lot of confusion about—if people are jumping ship, is there a major disagreement with Ed? There is a disagreement with Ed when something like that happens, and it's over performance. People are asked to leave when their performance is inadequate for the job, and there are often times with the individual involved about what his performance is or could be.

Did you feel like you were the new kid on the block and people were testing you?

Oh, I don't think it was necessarily testing. Again, we're in an industry that goes very fast; people have the opportunity to have jobs and titles at a much quicker rate than they might in any other industry. It's hard enough to live up to the jobs growing in a large company at the pace that most large companies grow—let alone [a computer industry company]. Look at fiscal '87 over fiscal '86. We were almost double the size. Even if you didn't have a title change, more than likely you had twice as many people and your job doubled. It's very difficult to keep up, and it's been difficult for all of us to be mature enough and objective enough about ourselves in our ability to do the job. Unfortunately society has taught you, me and everybody that climbing means success, not finding the level where you can make the most bang for the buck. If everybody wanted to be president of the United States we'd have trouble. [laughs]

In the L.A. Times story you commented on your dislike of the "cult of the personality" in the computer industry. Could you elaborate on that and your general feelings about this industry?

I wouldn't be in any other business. I like this business. The rules always seem to change and yet some things never change.

I generally like the people in the business. Most people conduct themselves professionally. What concerns me about it is that from an industry analyst perspective (i.e. financial community perspective and press perspective), people are more in the fishbowl in this industry, and more concerned with personifying a company into one man. Not quite like Hollywood—the entertain-

"I will go on the record as saying there hasn't been a vice president that has left this company since I've been here that hasn't been asked by me, personally, to leave. There's a lot of confusion about—if people are jumping ship, is there a major disagreement with Ed? There IS a disagreement with Ed when something like that happens, and it's over performance."

ment industry is probably the most people intensive industry.

A lot of the perception of what this company is is the perception of what I say and what I do. This company is far more than me. I'm here to look at the overall strategic direction of the company, communicate what we're doing to the financial community and the press, our customers, etc., but every day there are nearly 1200 other people here making it happen, making what I say in words into reality.

But in this industry, you think of Microsoft, you think of Bill Gates. You think of Lotus, you used to think of Mitch [Kapor], now you think of Jim [Manzi]. You think of Ashton-Tate, you think of me. I don't think all these [unknown employees] get as much credit as they deserve for making it happen.

Would you prefer not to be so well-known and just keep your head down and do your job?

In general. When I first came to the company in one of my first talks with our PR agency I said "I do not want to become a media personality, unless you tell me it is absolutely required to be successful in this business." And it turns out it is required that there be a spokesman for the company out there. It's important to communicate where you're going and keep your name out in front of your customers.

What's the worst part about your job?

[laughs] There's no place to hide. I'm not a person who tends to want to hide, but the reality is there's no place to hide from me. I tend to be my worst critic, my hardest judge, and when something doesn't go right, it's my problem. It's not someone else's problem.

Really, the worst part of that is that I have to take the unpleasant actions if someone else doesn't in the chain. If nobody else makes the tough calls, you have to make them. But that's part of the juice of the job too, getting to make those calls and make the decisions. It's not always easy when you have to let somebody go when they're not doing well. Some of the hardest decisions I had to make related to the people in the executive ranks who have left this company at our behest.

Are there any decisions you made in that respect that you wish now you could change?

If one examines the past one can always come up with a few decisions [that were wrong]. Some people say "I've made every decision right. I'd never change." I don't believe them. [laughs] I think there are decisions that could have been made better, and emphasis that could have been placed in other areas. I think I, like most people in jobs like mine, have called the majority of them right. And that's all you can ask. My toughest judge is myself, and if I expected perfection, I'd probably end up in a loony bin.

Do you remember your first experience on a computer?

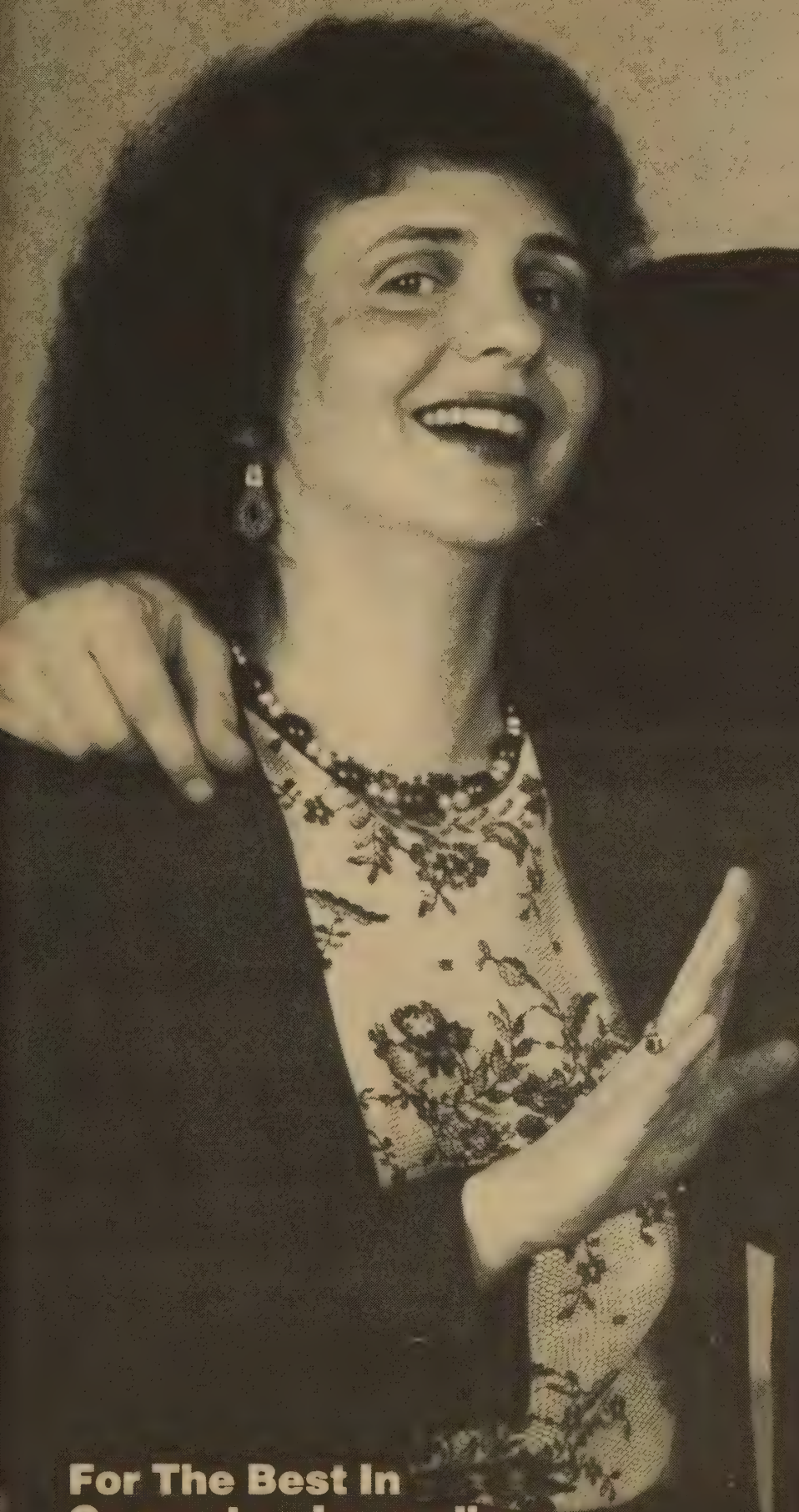
Yes. I saw the magic of VisiCalc, is what it amounted to. That was in 1979, when I actually put my own fingers on a keyboard on a personal computer. It was an Apple II with a pre-release version of VisiCalc. It was then I knew that's where I wanted to be.

I had picked the industry prior to that. When I picked a job out of Harvard Business School I picked Texas Instruments. You want to talk about a call I made wrong! [laughs] I picked TI because I thought they'd be the long run leader in personal computers. Fortunately the job I took was totally unrelated to the 99-4 personal computer. It was related to a different machine that did not see the light of day. [laughs]

Is there anything else you want to say?

The only thing I can say is, Ashton-Tate is going to do the job in delivering the right products to the customers in a timely fashion. The ultimate test of that is to show you those products. I can keep saying "I'm going to do it." But I need to deliver. And if I don't, I and the company deserve to fail. Then if we fail, we don't care who wins. We don't care if it's IBM, if it's Oracle, if it's Lotus, or if it's Migent. We don't want to fail and we don't intend to. □

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INFORMIX SOFTWARE:

Hardware-Independent Solutions For Multiuser Systems

By Mary Eisenhart

PHOTO: MARY EISENHART



Informix vice president and co-founder Laura King: "We started out seeing ourselves as a UNIX company. We now see ourselves as suppliers of database tools for the standard operating systems."

"The government is very interested in standards. They're very interested in not being bound to a particular machine or line of machines from a manufacturer, so UNIX is attractive to them."

"I visualize database software as being very ephemeral," says Laura King, vice president and co-founder of Informix Software, the leading vendor of database software in the UNIX world. "It has no personality, really. It takes its shape, form and substance from the application. Whatever someone builds with it is what it is."

"We've seen people build everything under the sun with Informix—a blood bank, a Cub Scout troop something-or-other. Aerospace people use it. It's used in Fortune 500 for all kinds of business-type applications. Hewlett-Packard uses it in a clean-room situation, for keeping track of problems they find in their chips. It's used in a real-estate appraisal system that TRW built. We have a customer in France that uses it to keep track of diamond-drilling equipment that's really expensive—they only have a few pieces of each kind, and they have to move it all over the world. It's used for law-office case-tracking. We have a company that uses it for insurance claim management. It's used to build medical record systems—I was talking to a man the other day who not only does the medical record stuff, now he's got six doctors in a group who each have an Informix system—he wants to connect them up and let them send stuff back and forth amongst themselves electronically. It's used by McDonald's to do the inventory in all their retail outlets. Godfather's Pizza uses it to figure out how to send out the pizzas efficiently." So numerous, in fact, are the third-party vertical solutions based on Informix that the company publishes a hefty catalog of them annually.

Informix Software (which changed its name last year from Relational Database Systems) currently provides database management software and application development tools not only in the UNIX environment, but also in the DOS micro world, as well as DEC's VMS minicomputers and a variety of IBM minis and mainframes. Founded in 1980, it's enjoyed sales figures that doubled each year since the first product was shipped in 1981, finishing 1986 with earnings of \$2.4 million on revenues of \$21.1 million. With the advent of powerful new micros based on such processors as the 80386 and the 68020, Informix sales in the micro

world are expected to provide even more growth.

Shrewd and timely decisions played a significant role in the company's evolution; however, had co-founder and president Roger Sippl chosen a different wardrobe one day some years back, history might have been quite different.

PIONEERING THE UNIX MARKETPLACE

Informix had its beginnings when Sippl and King were computer science students at UC Berkeley; he hired her as a gofer for the computer consulting firm he'd founded to finance his college education. After she'd graduated and begun working at Cromemco, this being in the homebrew period in Silicon Valley, she persuaded him that there was indeed a viable future for these microcomputers. So Sippl scheduled some interviews.

Enter the fateful sartorial decision. Recalls King: "He interviewed at Apple, he interviewed at Cromemco. He couldn't get a job at Apple because he wore a suit and Steve Jobs didn't like that—he couldn't possibly program in that outfit...even though Roger's probably one of the best programmers I've ever met. So he came over to Cromemco and ended up with me there as my boss. We were the database department."

At the time, Cromemco was selling 16-bit multi-user microcomputers. Originally they ran a CP/M operating system called CDOS; eventually Roy Harrington (currently Informix vice president of advanced product research) wrote an early implementation of UNIX for Cromemco computers which was christened Cromix.

After a few years at Cromemco, Sippl (who had in the meantime written a report writer that was an early precursor of the report writer in Informix) decided that the time had come to found his own company, whereupon King suddenly found herself "vice president of everything. Answering the phones and shipping orders and writing the code and selling the product..."

The product itself resulted from strategic decisions that were by no means obvious at the time. The founders decided to base their software on relational database technology, which in those days, says King, "was a mathematical model primarily;

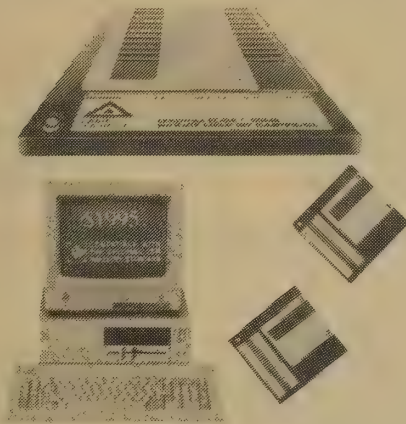
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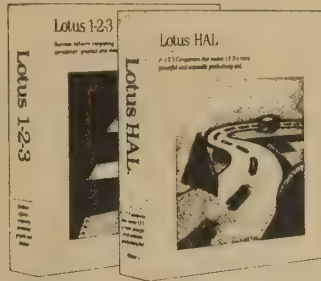
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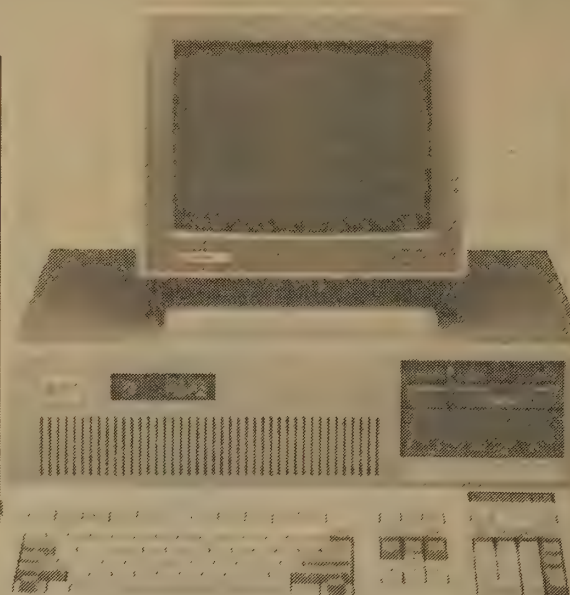
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there were a couple of companies poking around, no one in the UNIX arena. [But] the relational model was a model that made sense for that class of machine; it allows people who aren't extremely sophisticated MIS types to use a database system. We could define interfaces for it; data items could be related together pretty much on the fly; you didn't have to sit down and laboriously spec out your whole system and really know all the interrelationships and hard-code those in; you could just sit down and say, gee, I thought I'd ask

it freed the software developer from dependence on a single hardware vendor.

RDS shipped its first database product, called *Marathon* at the time, in 1981, and the business prospered almost from the first. Its first clients were admittedly adventurous souls who were attracted by UNIX's power and multiuser/multitasking capabilities and willing to consider the price/performance of UNIX-based micros compared to proprietary mini-based systems.

And, while Informix is no longer

**“What we're seeing
is a tremendous demand for tools
that look the same and act the
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the question this way, and type it in with an interactive query language on a micro, and get your answers back.”

As for UNIX itself, she adds, it “wasn't really a viable commercial operating system at that time; there were a couple of manufacturers, but there wasn't a huge market out there. But we thought that the phenomenon that CP/M had started UNIX would pick up for the multiuser micros. We thought that those machines would be good for small businesses, and really moving on up into larger businesses, and that those machines would start to compete at the high end, ultimately, with minicomputers, and grow into this midrange of computing machines.

“We thought that UNIX was really the only viable contender for that niche—a lot of the students in the universities were trained on UNIX, Roger and I certainly were at Berkeley. Those people were coming out into the market, they knew and loved the operating system, and when they became decision-makers, if they had a choice they would probably spec UNIX for the systems they would be buying and using.”

Not the least of UNIX's advantages at that early stage of the industry's development was its hardware independence and adherence to standards across machine types. Says King, “We thought, because of what had happened with CP/M, that packaged software was on the upsurge, and that writing packages for proprietary operating systems would be, not necessarily a thing of the past, because it's still going on today, but would be declining, that people would be looking for standard operating systems.” UNIX promised the end user independence from the consultant and the MIS department, and

an all-UNIX company, there's no doubt about the wisdom of Sippl and King's decision. “It's always been amusing to us, the skepticism about UNIX,” she comments. “We accept it, because it's something you hear all the time. But even though we introduced a DOS product in '83, as late as '86 we were still deriving about 80% of our revenue from UNIX software. If you look at that revenue, and you figure that we've doubled every year, that's largely growth that tracks some of the growth in the UNIX market. A marketplace that allows a company like us to double every year like that has to be a pretty healthy, pretty growing marketplace.

“The government has standardized on UNIX by and large; tens of thousands of systems will be installed over the next several years, and all of those systems must run the UNIX operating system. And for the same reasons—the government is very interested in standards. They're very interested in not being bound to a particular machine or line of machines from a manufacturer, so UNIX is attractive to them.

“The corporate market was pretty much nonexistent for the UNIX vendors until about 2 1/2 years ago, and then we started to see movement in the corporate market. I think now DEC's VMS machine is probably the single most dominant machine in the minicomputer market, and the VMS market is about as big as the UNIX market in that world. We're seeing more and more UNIX moving into the corporate market as an alternative to VMS. Again, I think the appeal there is that you're not married to a particular hardware vendor.”

BEYOND UNIX

According to King, today's corporate customers don't buy operating sys-

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tems, they buy solutions, and it's a multi-environment world. "What we're seeing," she says, "is a tremendous demand for tools that look the same and act the same and are the same in all these different environments."

Which, as it turns out, is a particular strength of Informix products. "We started out seeing ourselves as a UNIX company. We now see ourselves as suppliers of database tools for the standard operating systems. We're not going to support all of our products in all environments, but we will pick the products that are suited to an environment and move them there." Which means, in effect, that Informix products eliminate the need to change software when you upgrade your hardware systems. To the customer who inquires, "When I build an application in Informix 4GL in UNIX, can I move that same thing to DOS and just recompile it for that machine? And can I move it to my VMS machine?", the answer, says King, is a resounding yes.

Informix was one of the first software vendors to endorse the SQL (Sequential Query Language) standard for relational databases, which was recently endorsed by IBM for its OS/2 micros as well as the MVS and VM mainframe and minicomputers. Corporate clients accustomed to running SQL engines on those machines and using UNIX, DOS or VMS machines will find Informix products to meet their needs.

Informix's current best-selling packages are Informix-SQL and Informix-4GL, a fourth-generation appli-

all of those same components are there, but they're there in one big language, so you can generate a report from the screen. You can control the flow that your user takes through an application precisely. You can customize every error message that they see; every help screen—really take control of the application.

"The tradeoff is, to use Informix 4GL you have to be a programmer. To use Informix SQL you don't. Anybody can get started with Informix SQL and really build very nice applications—that was our mainstay product for five years. But people, particularly people in MIS departments or people who are VARs, and just really want to customize everything and they're not afraid to deal with the language—Informix 4GL is the language of choice for those people."

INTERFACES, OR, BEYOND USER-HOSTILE

Informix specializes not only in powerful database engines but in creating interfaces that minimize retraining, pain and suffering (Informix Data-sheet Add-In, for instance, allows reports in 1-2-3 from data in an Informix database). King views improving user-friendliness as a part of Informix's ongoing process of enhancing its products.

"There's a tremendous lot to be said for the Macintosh," she observes. "Many of the concepts that were pioneered on the Mac are popping up, certainly in DOS, and I think we'll see the same thing in UNIX, in the front end, the tools that

Informix specializes not only in powerful database engines but in creating interfaces that minimize retraining, pain and suffering.

cation generation language. Explains King, "Each of those packages is a standalone package, so you can buy just one of them, or you can work with them together if you like. They both contain ANSI-standard SQL."

"Informix SQL is a series of modules—it's your classic database management system. It's got a report writing language, it's got a screen generation package, it has a interactive query language, it has a menu builder, it has miscellaneous utilities for maintaining a database. If you want your screen that you've built for your data entry to call a report, or invoke the interactive query language, or do something else that's the province of another module, you're kind of stuck. The languages don't necessarily talk to each other. They all work on the same data base, but they don't talk to each other.

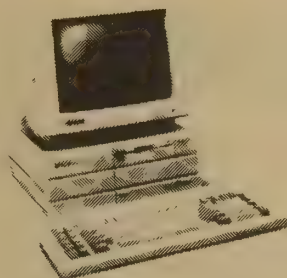
"If you look over at Informix 4GL,

all the vendors have to provide—pop-up windows, the ability to use clipboards and mice and have different windows open at the same time."

The issue, once again, is standards. "I believe, and Roger believes, that that's just more technology to incorporate into our products. We've been in a process of constant innovation for the last 7½ years. To keep moving into the future and provide people with the best possible front ends we can, we're going to need to incorporate those kinds of concepts into the software. What we're really waiting for is for the tools to really emerge on the market, for windows to standardize. As soon as we start to see things like that become more clear, you'll start seeing those kinds of things in the database software itself." (Informix Software, 4100 Bohannon Drive, Menlo Park, CA 94025, 415/322-4100.) □

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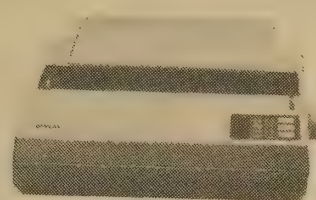
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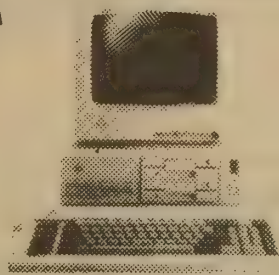
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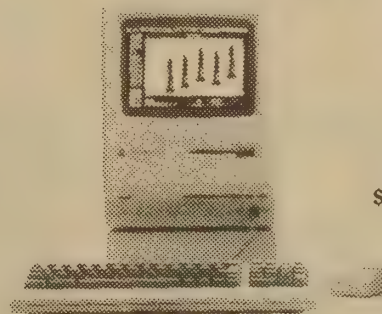
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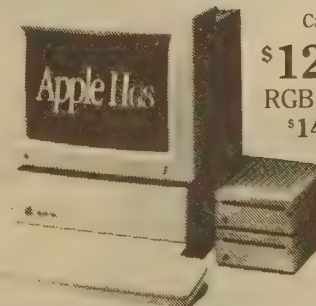


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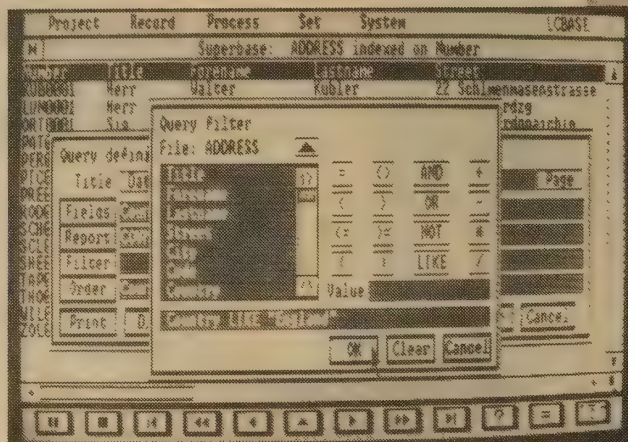
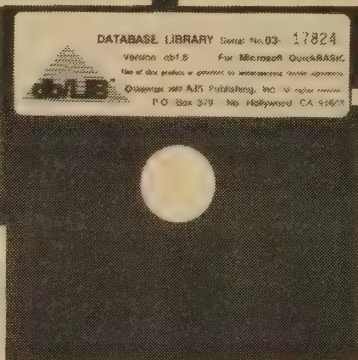
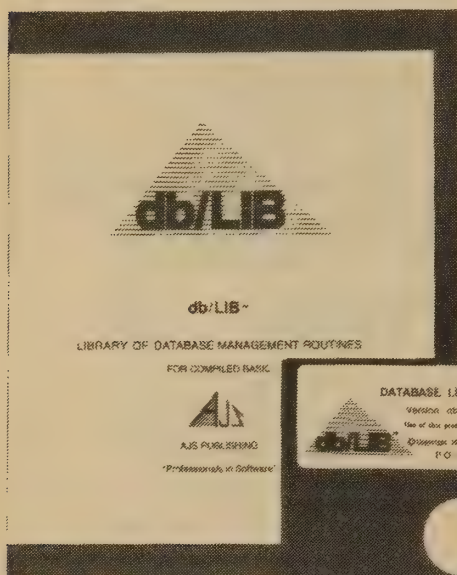
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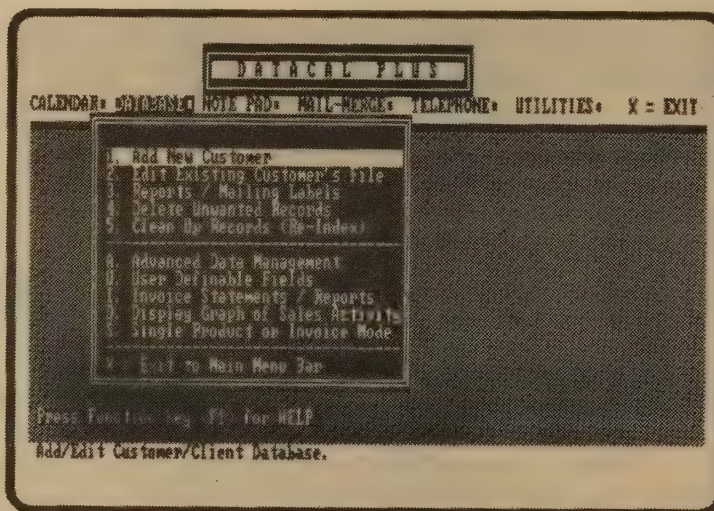
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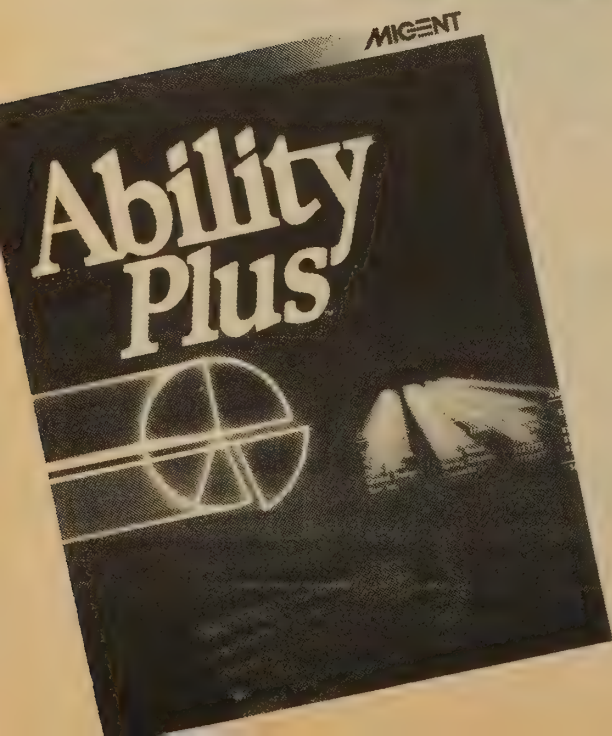
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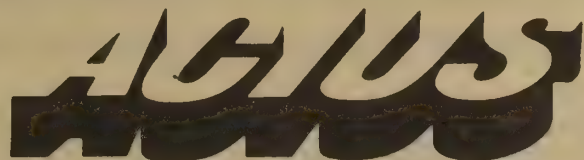
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Migent's Plus version of its Ability software adds more features to its all-in-one package. The entire system is menu driven and uses the same instructions in all six applications. Ability Plus includes a relational database that imports *dBASE II/III/Plus* and *PFS* files, a larger spreadsheet and Migent Pocket Modem and Hayes-compatible communications with XModem. It also includes a WYSIWYG word processor with 140,000 word spelling checker, and business graphics made from spreadsheet and database files. Integration links "live" data from any application to any of the others. Ability Plus will also do slide show presentations. (\$99) Migent Inc., P.O. Box 6062 Incline Village, NV 89450. (702) 832-3700.



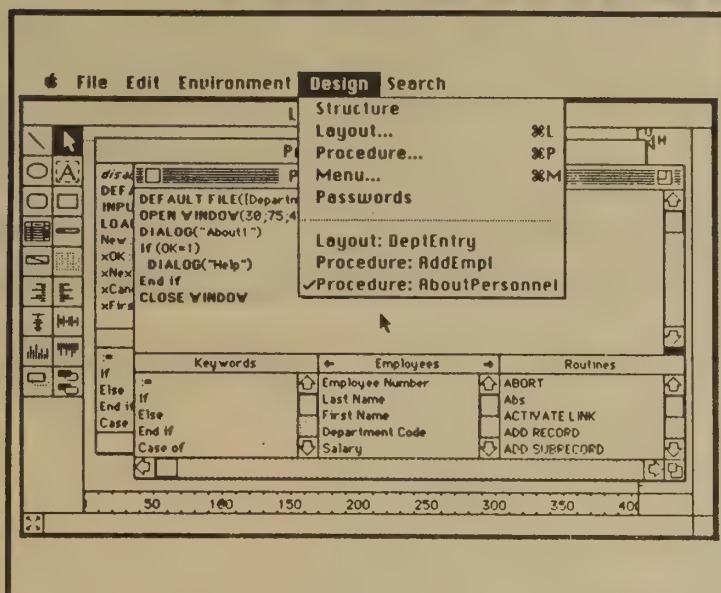


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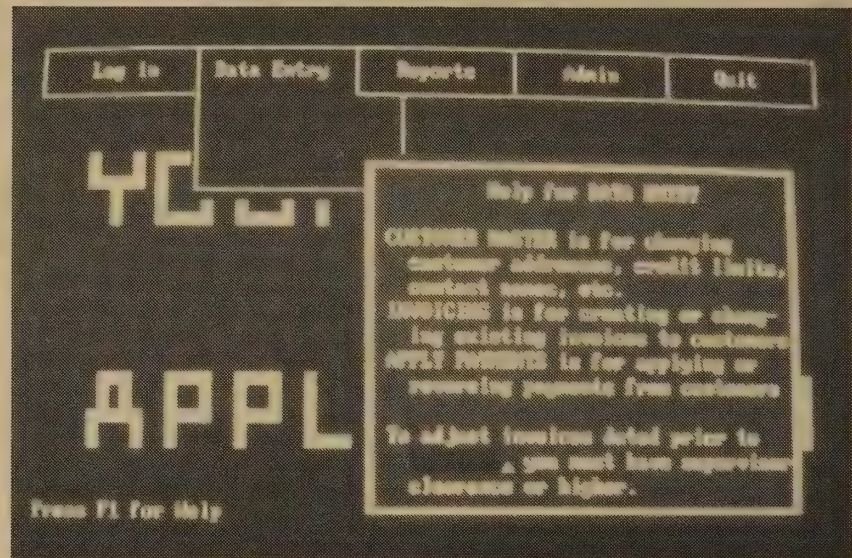
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peopleBASE



DataFlex Is A Flexible Database Management System

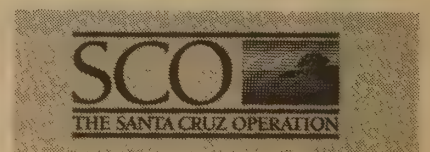
The newest version 2.2 of *DataFlex* includes pop up help screens and pull down menus that can be incorporated into your *DataFlex* applications. *DataFlex* offers full and easily programmed control over the size, color, and location of each page and allows each to be displayed without disturbing on screen data. A new command allows temporary suspension of a *DataFlex* application in order to run any other program or DOS command. It then allows you to return to *DataFlex* at the point where you left off. *DataFlex* applications can run on over 30 single user, multi-user and LAN operating systems. Other new features include windowing, the support of MS-DOS and UNIX file and directory pathnames conventions, and the ability to read dBASE files. Data Access Corporation, 8525 SW 129 Terrace, Miami, FL 33156-6565. (303) 238-0012.

For People Who Don't Want To Learn A Database

peopleBase is designed for use by professionals who need to keep track of and correspond with large numbers of people. Using pull down menus, the user can select someone from a list of people due to be called, review their correspondence history, auto-dial the phone, update the history and print a personalized letter. The user can also manage mailing lists, print labels and form letters for selected groups of people, print custom lists and analyze numeric data stored in the database. It is intended for users looking for a system that does not require a great deal of effort to learn and use. Prices range from \$39 to \$129 depending on the size of the database required. High Caliber Systems, Inc., 165 Madison Ave., New York, NY 10016 (212) 684-5553.

FoxBASE Offers Database Upgrade Path To The XENIX Environment

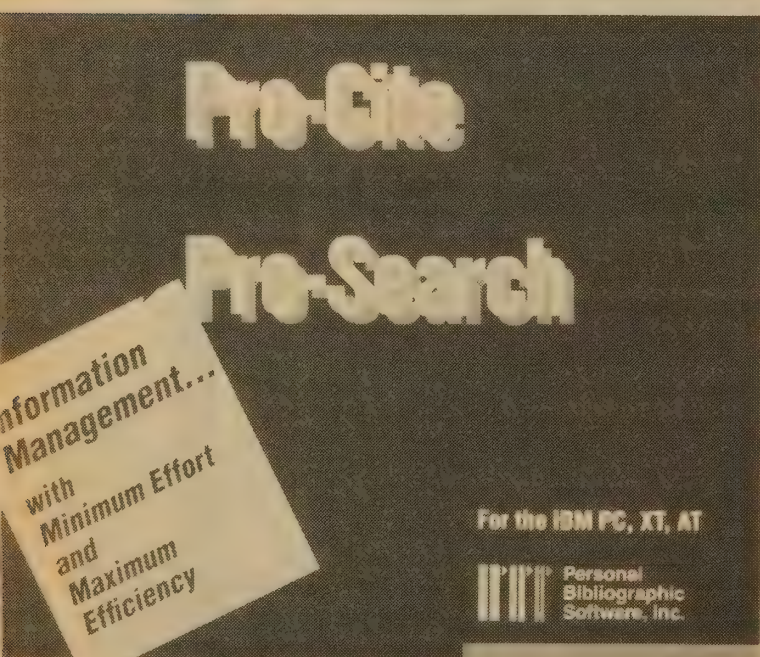
The Santa Cruz Operation's *FoxBASE+* offers an upgrade path to those dBASE III Plus users who wish to move to the XENIX multi-user operating system. *FoxBASE+* offers source-language and data-file compatibility with dBASE III Plus and identical record and file locking syntax. It also has a virtually identical user interface. The full power of unrestricted dot-prompt mode is available, permitting the use of familiar



commands, including BROWSE, EDIT, APPEND, MODIFY STRUCTURE and MODIFY COMMAND. *FoxBASE+* also offers extended programming features such as 14 times the number of memory variables offered by dBASE III Plus and four times the number of procedures per procedure file. (\$795) SCO, 400 Encinal Street, P.O. Box 1900, Santa Cruz, CA 95061. (408) 425-7222.

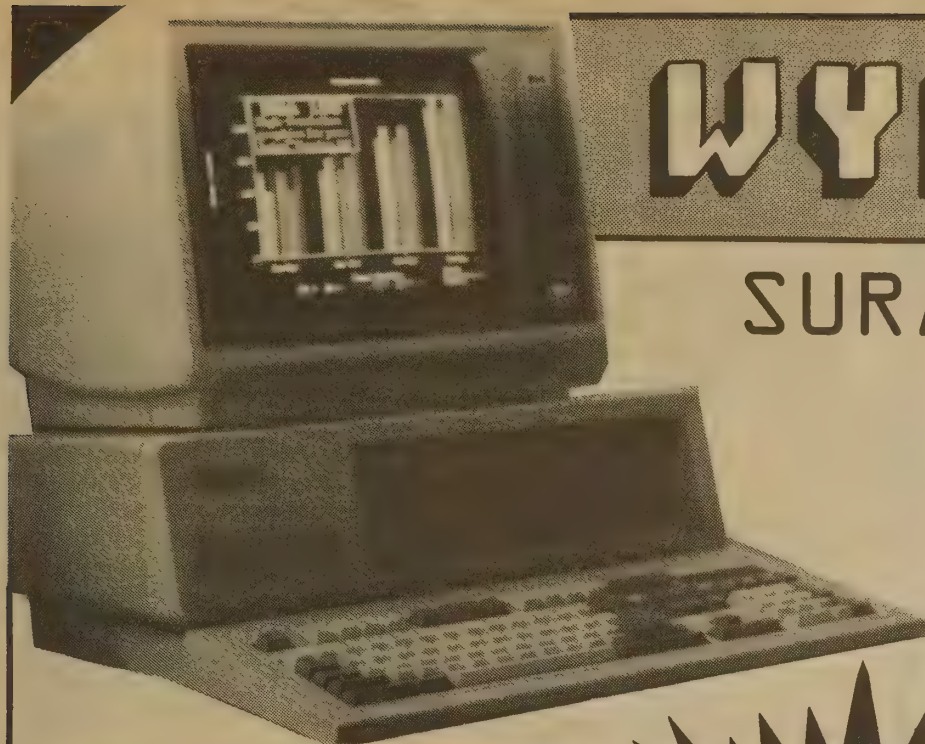
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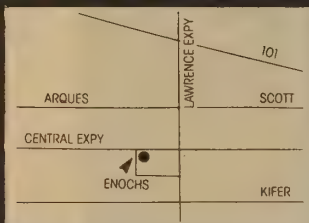
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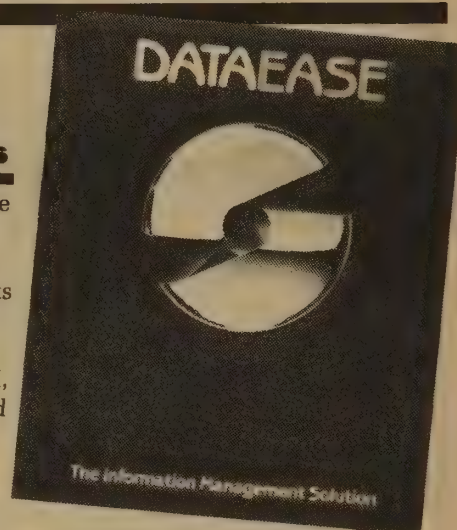
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DataEase Allows Users To Create Database Applications With Menus

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are comprised of many fields. The user can create simple or complex reports using the data stored in the fields. DataEase International, Inc., 12 Cambridge Dr., Trumbull, CT 06611. (800) 243-5123.

Programmers Plus Edition Of SilverComm Complements Clipper Edition

SilverWare Inc., has added the Programmers Plus Edition to complement its Clipper Edition of SilverComm. SilverComm is a comprehensive communications library for Clipper, dBASE III Plus, FoxBASE+, dBaseXL and Quicksilver. It gives programmers the tools to design robust interrupt-driven communications applications with simultaneous buffered input/output to both COM1/COM2 at baud rates up to 19.2K baud. Programmers Plus Edition provides database programmers with an excellent environment for doing disk I/O, keyboard input and screen/printer output. The programmer can control mainframe communications, electronic mail systems remote updating and stock exchange information queries among others. (\$149.95) SilverWare Inc., P.O. Box 781143, Dallas, TX 75378. (214) 902-0227.

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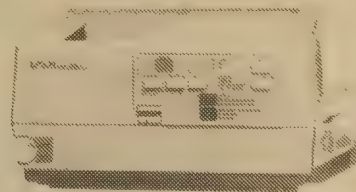
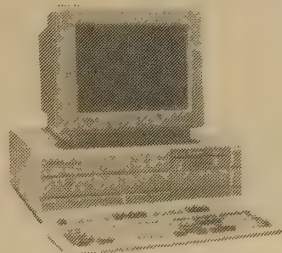
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LQ And Imageprint:

Shareware Solutions For Better Dot-Matrix Print Quality

By Lenny Bailes

If you are a professional writer, or do word processing for a living, more than one person may have informed you that the "N" in NLQ makes your dot-matrix printer's output unacceptable for business purposes.

Well, what can you do? Forego the graphics capabilities of dot matrix printers entirely and trade in for a daisy wheel (cutting output speed by 1/3)? Get a laser printer, or upgrade to a 24-pin dot matrix? These alternatives, unfortunately, all mean spending money.

There is an unshakeable core of small-time computer programmers who prefer to substitute ingenuity for outlay of cash. These people have taken up the challenge of solving unique home-computing problems on terms irresistible to the home user. Their work is offered on a Shareware basis: try the product for the cost of shipping a disk and see if it's useful to you. Should this be the case, receive full support and registration for less than \$50.

Two Shareware programs, *Imageprint* and *LQ*, provide software solutions to the letter-quality output problem on an eight-pin dot-matrix printer. Both use the bit-mapped graphics capability of Epson-compatible printers to offer a variety of fonts which are superior in appearance to the NLQ modes of printers in the \$200-500 range. *Imageprint* is compatible with Epson, Canon, NEC Pinwriter, Okidata with Plug & Play, Star SG series, or any printer which can take Epson graphics escape codes. *LQ* is compatible with Epson-IBM Graphics, IBM Proprinter, C.Itoh and Star generic printers, and permits the user to construct printer tables for non-Epson compatibles.

Both programs have a command-line function in which they substitute for a word processor's print function. The program is invoked, the desired fonts are specified with the name of an ASCII file to print. Both programs permit the insertion of control codes into text to create bold, underline, italics, superscript, margin setting, justification and proportional spacing, even if your printer does not possess these capabilities in its ROM

Announcing Version 2 of

LQ

the flexible, cost-effective way to get 'near-letter quality' from your inexpensive dot matrix printer. *LQ* works invisibly with your favorite word processor or other program to deliver excellent print quality on Epson-compatible and most other dot matrix printers. You can change character fonts and sizes easily in the middle of a document. *LQ* provides a high-quality version of the print options you're used to: **emphasized**, underline, ^{superscript} and _{subscript}, *italics*, double-wide, and several additional options such as proportional spacing, large characters, variable line spacing,



graphics mode,

and a variety of fonts which can be mixed freely within a document. You can use most of the features of *LQ* without changing your old word-processing habits at all; other options are activated with direct commands or by inserting a few codes in your documents.

This is the EPSON LX-90 in native draft mode

This is the EPSON LX-90 in native NLQ mode.

LQ output of text and graphics, compared to the Epson printer's native draft and NLQ output.

character sets. You can also vary between 10 and 12 pitch spacing, and change fonts at will from a rotating palette of styles.

LQ

For those who would like to print directly from their word processors, *LQ* can be installed as a resident filter accepting printing instructions directly from WordPerfect, MS Word, or PC-Write. Your file then outputs with higher quality print resolution than your printer normally gives, in whatever type style you choose.

LQ comes with 20 fonts. Four have matched italic character sets and four are 12 point styles paired with matching 10 point styles. One set is the Greek alphabet. *LQ* also prints banner characters (3X normal size) in any of its fonts. The Helvetica and Sans serif fonts both have a nice "typeset" look to them.

When invoked as a printing program from DOS, *LQ* lets you select up to four fonts and specify bold type or proportional spacing, all without inserting format codes in your document. Ten and 12 pitch spacing, justification, superscript, font changes, etc., can all also be embedded in the document by a series of backslash codes. When used as a resident filter, *LQ* permits the same options, and additionally lets you switch fonts, set line spacing and set page length on the fly from a pop-up window. You may now format and print from your word processor; the pop-up window toggles between *LQ* and your printer's normal output, and also permits you to control *LQ*'s resident print spooler.

The print spooler is *LQ*'s most innovative feature. To use graphically enhanced fonts requires three to four times the memory it takes to

print ordinary text. *LQ*'s spooler condenses the size of a graphics file, making it possible to contain 100-200K of graphics information in 20K of RAM. This makes it possible to do background printing of graphics without eating up all of your system's remaining memory.

LQ includes a font making program, with which you can design your own type styles or modify the appearance of individual characters in the existing styles. It is possible to design graphic sets, analogous to the IBM box drawing characters, so that you can construct your own pictures. The printer tables can be customized as to character width, character substitution and your printer's unique escape codes.

IMAGEPRINT

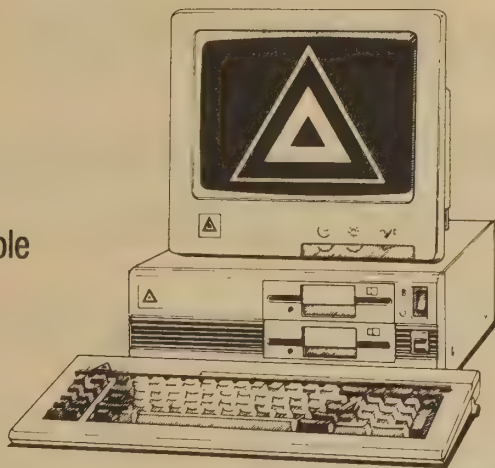
Imageprint comes with only one included font in the demonstration

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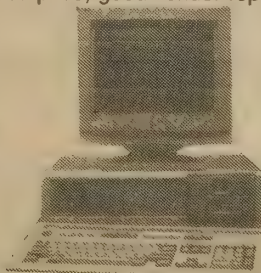
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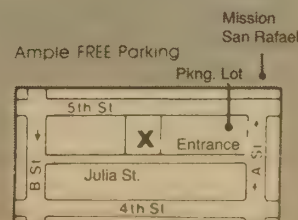
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Enlarged Imageprint output.

package and six fonts in the registered user package, but quality makes up for quantity here. Imageprint's character sets are virtually indistinguishable from daisy wheel print, with a density of 219 dots per inch. The program also has a laser-quality option which prints in six passes per line.

Imageprint's speed optimization lets it output at about 80% of your printer's NLQ speed. In three-pass quality mode, the Epson LX-90 will print a full page of text in about 2½ minutes. The three-pass draft mode is faster, offering the fonts in what looks like dot-matrix doublestrike. Ten-, 12- and 17-cpi character sets are offered, including italics versions of each set (making 12 actual character sets in the six font package).

The demonstration version comes with only one font, Cubic, but is otherwise fully operational. Imageprint's author cautions that the program is designed to be run to a printer only from a parallel port. I experimented with an Epson printer and discovered that the print speed is horrendously slow with a serial connection at 1200 baud, but workable and only slightly slow when run at 4800 baud.

Imageprint is offered as a command-line printing program. It is appropriately equipped with a full set of word processor formatting codes for page layout and text enhancement. You can insert these codes in your ASCII file, or else use your word processor to print to disk and have Imageprint run the disk file. If you use PC-Write, Imageprint provides a special patch to PC-Write's printing program which allows the native PC-Write formatting commands to control Imageprint font changes. Imageprint has its own insertable two-letter codes to generate headers and footers with running page numbers in various fonts. Text can be set to wordwrap within specified margins, or breaks for hyphens can be indicated by placing slashes between the syllables of a word near the end of a line. This permits attractive "typeset" right justification. Non-printing comments can also be inserted into the text, as with For Comment.

Imageprint can also be run in typewriter mode, allowing you to enter text line by line from the key-

board. A utility permits you to make individual character-key substitutions and select foreign language character sets in each font.

METATEXT— MEMORY-RESIDENT IMAGEPRINT

If you like Imageprint and want more fonts, or would like to print from your word processor directly, the author of Imageprint has a memory-resident version called Metatext, which offers seven additional fonts and lets your word processor handle everything, as LQ does. Metatext has no formatting codes except those which relate to font switching and print quality. Imageprint and Metatext fonts are interchangeable. You load Metatext at the command line with the fonts you want active, and any word processing program you use will pass its instructions through Metatext to the printer. Like LQ, Metatext can be toggled on and off.

Metatext is a little bit more expensive than LQ (Imageprint is a little cheaper). The fonts offered have slightly superior resolution and speedier printing. LQ offers more fonts, which are all available in the trial package, and has built in font designing and memory-resident options.

Both LQ and Imageprint are available on public BBS systems, from Shareware vendors at swap meets, and from the authors. You can try either program for \$10 or less, and register if you decide the program is useful to you. Both authors offer telephone support for registered users, and will make custom printer drivers for you. LQ: \$10 for trial package; \$35 for registered package (\$10 commission on each future registration from your copy); available from Granny's Old-Fashioned Software, Rt. 4, Boone, North Carolina 28607, 704/264-6906. Imageprint: \$10 for trial package (one font, Cubic); \$20 for registered package (6 fonts); \$30 for registered CPM/80 version. Metatext: \$89 (10 fonts, memory resident). Imageprint & Metatext: package, \$99 (13 fonts, command-line & memory resident). Individual fonts available at \$5 each from Image Computer Systems, P.O. Box 647, Avon, Connecticut 06001, 203/670-8771. Connecticut residents please add sales tax. □

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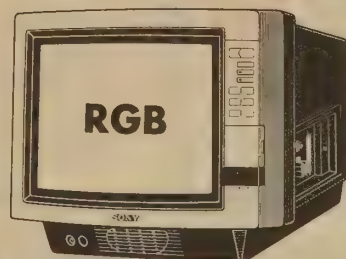
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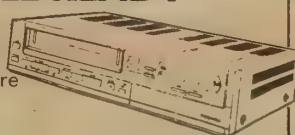
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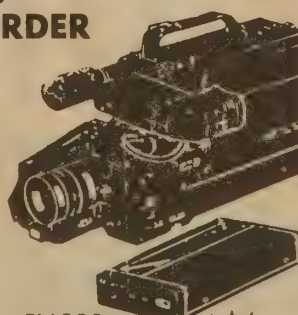


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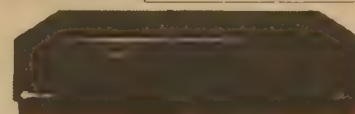
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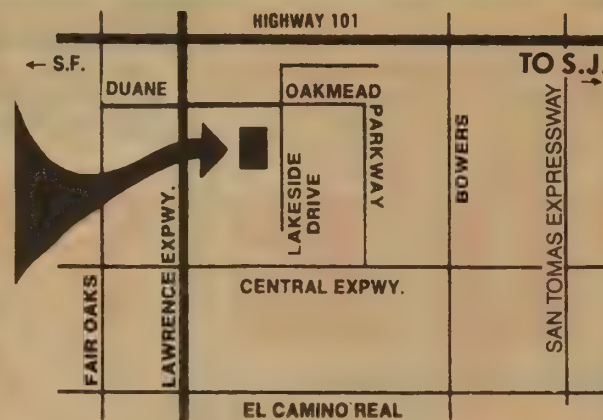
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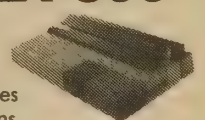
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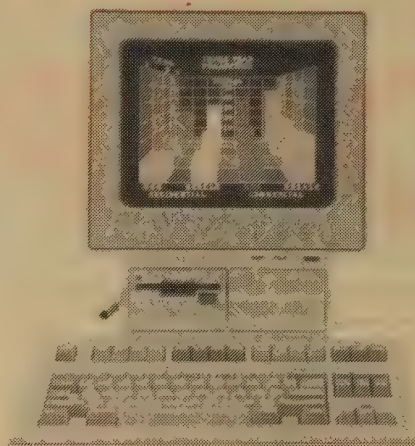
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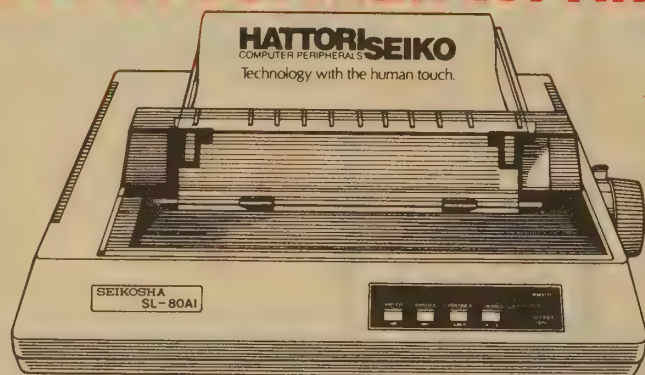
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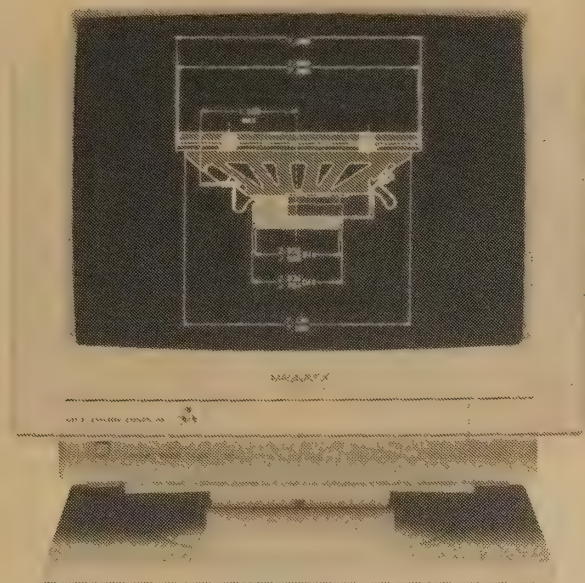
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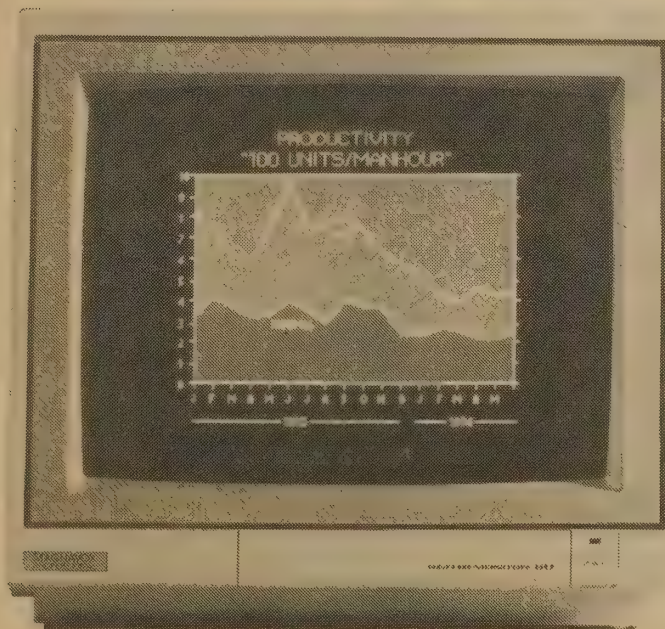
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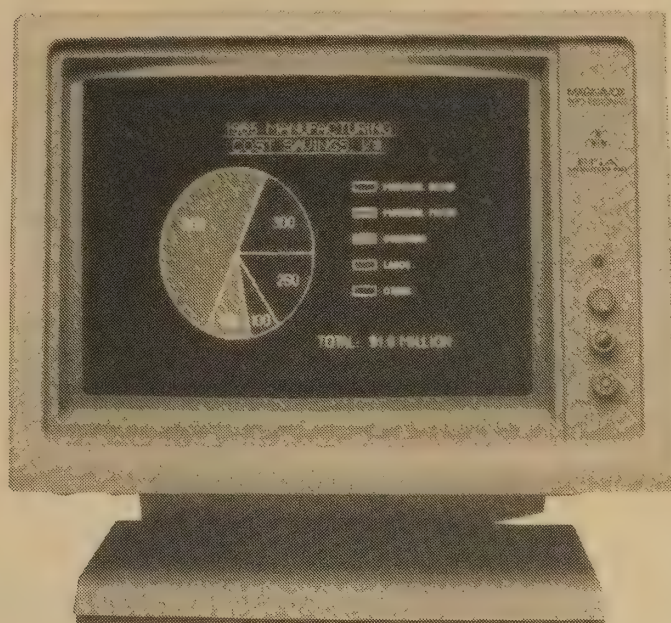
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Model 8060 is fully compatible with all standard Color Graphic Adapters from IBM. Scan frequency, number of colors, display size and position are automatically adjusted. It also supports AT&T PC6300, OLIVETTI M24/M28 users with automatically adjusted full size display.

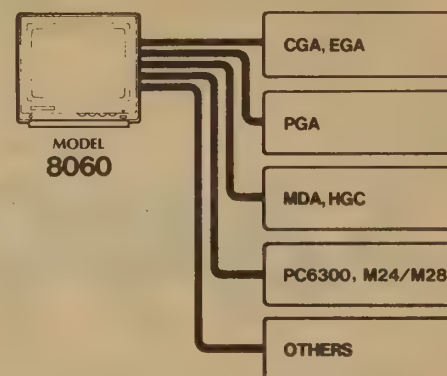
	NANAO model 8060	NEC MULTISYNC	IBM EGA	IBM VGA
PGA	●	●	—	●
EGA	●	●	●	—
CGA	●	●	●	—
MDA, HGC	●	●	—	—
AT & T PC 6300 OLIVETTI M24-M28	●	Proper display size not adjustable	—	—

Automatic scan frequency adjustment for horizontal and vertical frequencies. Both horizontal and vertical scan are automatically adjusted to those of display boards and computers. On NEC MULTISYNC, vertical sync. has to be manually adjusted.

	NANAO model 8060S	NEC MULTISYNC	IBM PGD
CRT Trio pitch	0.28mm	0.31mm	0.31mm
Horizontal dots	820	800	640
Vertical lines	620	560	480

Specifications

CRT Trio pitch	0.28mm 8060S, 0.31mm 8060H *
Size	14 (13V) 90°
Face treatment	Dark face, Non-glare
Standard Display size	250mm x 167mm
Recommended Resolution	820 horizontal dots 620 vertical lines
Video Band Width	30MHz minimum
Dimensions(mm)	356(W) x 325(H) x 400(D)



COMPARISON BETWEEN NANAO FLEXSCAN (8060H) AND NEC MULTISYNC

Item	NANAO FLEXSCAN	NEC MULTISYNC
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Vertical	50Hz-80Hz (auto)	56Hz-62Hz (manual)
Horizontal size adjust		
Position	Front	Top (under the lid)
Number of steps	4 positions	2 positions
Range (EGA)	235mm-265mm	245mm-255mm
Range (AT&T PC6300)	242mm-270mm (overscan)	195mm-205mm
Vertical size adjust		
Position	Front	Top (under the lid)
Range	135mm-Overscan	110mm-Overscan
Brightness (EGA)		
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White	50 ft-L	20 ft-L (40)
Gray	30 ft-L	15 ft-L (35)
Test Mode Switch		
Available with	Any adapter (TTL/Analog)	EGA, CGA only
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WORD PROCESSORS

WordPerfect for the Apple IIGS, version 1.1

Published by: WordPerfect Corporation (1987)

For: Apple IIGS (requires 256K, one 3.5" drive, two drives recommended)

List Price: \$179

Reviewed by: Mike Markowitz

Any word processor that tries to challenge the existing Apple II market had better be pretty damned good. Appleworks users are fiercely loyal, and have an abundance of add-on tools to customize their software. That old veteran, Apple Writer, still has a large base of users, and the antique WordStar still lives in the hearts and disk drives of CP/M die-hards.

A few new products, Multiscribe, GraphicWriter, Writer's Choice, etc., have appeared that take advantage of the power of the Apple IIGS system. They provide multiple fonts, integrated text, color graphics and the "Mac-like" user interface. In porting WordPerfect to the IIGS, however, a different approach was taken. The product is virtually identical to the MS-DOS version which has carved out a huge slice of the market among business and professional writers.

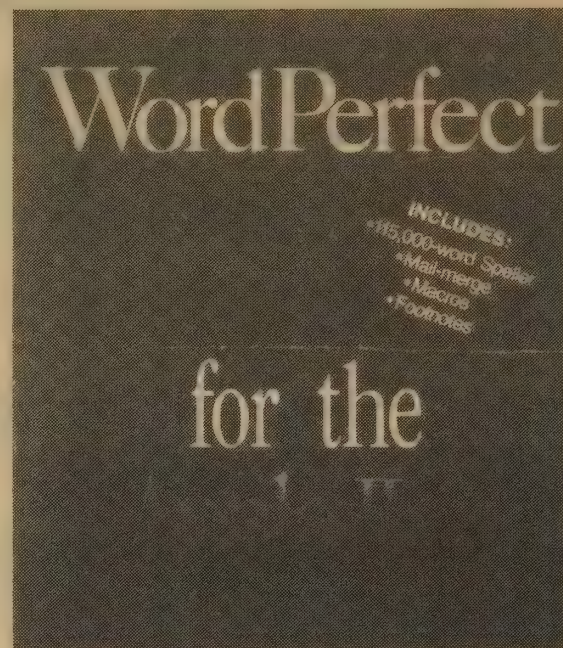
The only significant changes made to adapt WordPerfect to the IIGS involve the keyboard and the file handling routines. Instead of function keys the command sequences use combinations of numbers with the open-apple and option keys (the old

closed-apple key has turned into an "option" key on the IIGS for reasons known only to Apple). For example, open-apple-5 toggles underlining on or off, and option-9 centers a line of text. As on the PC, the numeric keypad does double duty as a set of cursor movement keys. Open-apple-clear functions as a num lock key. A plastic template strip provided with the program sits across the top of the IIGS keyboard. In addition to reminding you of the most important editing functions, it hides the deadly reset button.

For a user accustomed to AppleWorks, the WordPerfect screen is shockingly empty. You have a blank sheet with one line at the bottom indicating page, line and column. The program displays yellow text on a blue background, regardless of any preferences you may have set into the IIGS control panel. You can format a blank data disk without leaving the program.

WordPerfect uses ProDOS 16, and supports ProDOS pathnames, subdirectories, prefixes, volumes, etc. This is particularly important for hard disk users. Up to nine different prefixes can be set, which makes it relatively simple to jump between subdirectories.

The list of features in WordPerfect is simply astonishing. A spell checker with a 115,000 word dictionary fits on the program disk. A macro feature lets you record and playback any sequence of keystrokes "on the fly." Macros can even be named with option key/letter combinations, so you can make an easier transition from AppleWorks, using familiar MacroWorks macro names. Macros can be chained, so that one keystroke can set off a textual

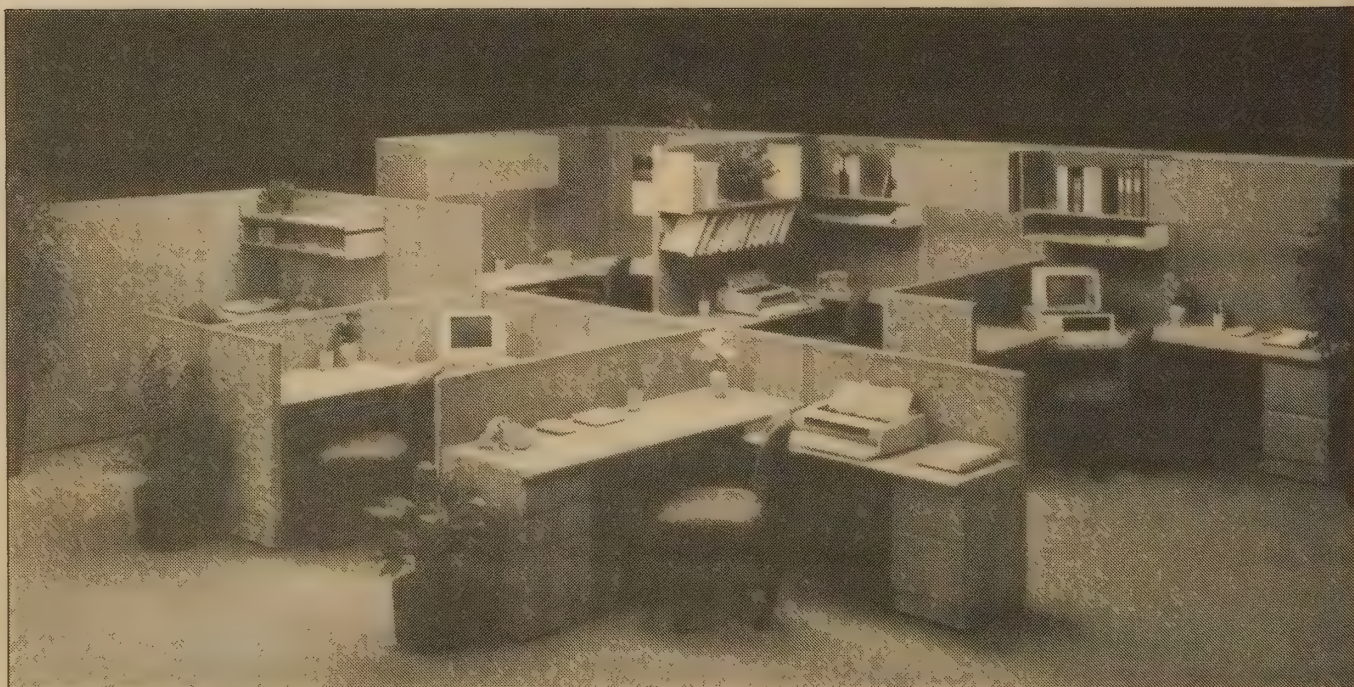


chain reaction of unimaginable complexity, with repetitions and conditional branching.

A complete mail merge function is built into WordPerfect. Boldface and underlining are shown on the screen (What you see is what you get — a great improvement over AppleWorks). Footnotes printed at the bottom of the page can be inserted and numbered automatically. The program reads the IIGS clock/calendar and automatically date-stamps your files.

Documentation is an IBM PC style cloth-bound

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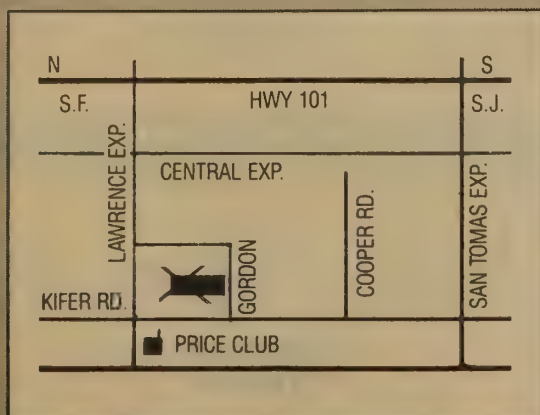
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three-hole binder. Sections are divided by color-coded tabs. The manual was written for the IIe/IIc version, and the few IIGS differences are covered in a four-page addendum. A section on getting started tells you how to copy the program disks using the ProDOS System Utilities Filer—a process so slow and inefficient that it should be ignored. If you don't have a better copying utility, you shouldn't be using an Apple.

The learning section of the manual is an extensive tutorial (ten lessons) with sample files in a special subdirectory on the program disk. A reference section devotes at least one page to every named feature of the program. Separate chapters cover the speller, the merge utility and other special topics. A glossary, index and 3-color quick reference card round out the package.

Despite the high quality of the documentation, WordPerfect is perhaps the most difficult software to set up that I have ever encountered. The printer installation is bizarre. When you first start the program, a macro named STARTMAC displays a screenful of information and then retrieves a document named READ.ME. You must delete the STARTMAC file, and create a new one that selects your printer and interface every time the program is booted. Over 100 printers and twenty-six interface cards are supported, as well as a variety of sheet feeders. The program seems to work well with the Imagewriter II plugged into the IIGS serial port (many Apple II programs don't). I found that a file called FONT.TEST, which is supposed to give a sample of what your printer can do, causes the Imagewriter to print garbage and hang up at one point. There is no printer driver for the Apple LaserWriter yet, but this may arrive in a future release.

Configuring WordPerfect to use a memory ex-

pansion card requires writing a batch file and using an INSTALL program which is provided on the utility disk. The manual cautions that "If you are a computer novice, it would be best not to attempt using this utility." Any program written for the IIGS should recognize extended RAM and automatically load itself into it—as AppleWorks 2.0 does. "Printing" a file to disk (which creates a plain ASCII text file) is a tricky, complicated procedure in WordPerfect. It should not be. A CONVERT utility is provided to transfer AppleWorks, AppleWriter or ASCII text files into WordPerfect format.

Much of WordPerfect's remarkable success in the PC market is attributed to a reputation for first-rate support for users. The warranty declares that "the program will perform in substantial compliance with the documentation supplied in this package." How many other companies have the courage to make that statement? In addition to telephone support, there is a phone bulletin board where users can post questions.

WordPerfect for the Apple IIGS is a paradoxical product. It is a heavy-duty, professional word processor for a computer that few heavy-duty professionals are ever likely to buy. It is text-oriented software for a graphics-oriented machine. It uses an austere PC-style keyboard interface, in an environment where the Mac-style mouse interface reigns supreme. The program does not recognize the mouse at all. The most likely user would be someone who has fallen in love with the power and functionality of the program on a PC at the office and wants to enjoy the same benefits on the Apple at home. This user will not be disappointed, or deterred by the pricetag. (WordPerfect Corporation, 288 West Center Street, Orem, Utah 84057. (801) 227-4000.)

Appleworks Word Processing: A Hands-On Guide

By: Arthur Luehrmann and Herbert Peckham
Published by: Computer Literacy Press (1987)

List Price: \$9.25 for individual student workbook, \$18.50 for teacher set, if purchased separately.

Reviewed by: Mike Markowitz

AppleWorks for kids?

Why not? The use of grown-up tools can be a valuable part of the computer literacy curriculum at any level from fifth or sixth grade on up. Arthur Luehrmann and Herbert Peckham, who have authored two dozen textbooks on computing, now offer a complete hands-on course in AppleWorks, the Apple II standard integrated software tool used by over a half million people. While many of the older Apples used in schools cannot run AppleWorks, there are enough IIe and IIc systems out there to support this kind of course.

The AppleWorks word processor is complicated. It has a lot of options and commands and some tricky metaphoric concepts, like the clipboard, the desktop and pathnames. Nevertheless, it is an article of faith among instructional designers that anyone can learn anything, if only it is presented with sufficient clarity and enough practical examples.

The course, like the software, is divided into three modules: word processing, database and spreadsheet. The word processing module is reviewed here. The other two modules will be

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available later this summer.

The complete package consists of a 152-page softcover workbook, an 88-page teacher's guide and a copiable data disk with over 100K of files. The teacher's set is provided free with every classroom order. The material is organized into 13 lab exercises. The teacher's guide includes a key that relates the exercises to specific page references in seven of the leading computer literacy textbooks. The course was carefully designed for use with any version of AppleWorks, but the screen illustrations are based on the current 2.0 version. Directions and explanations take into account the differences between using AppleWorks with one disk drive or two.

The material is designed for use by teachers with little computer experience. Practical problems of classroom management are discussed in detail, such as how many computers are available, when will students use them, and will students work alone, or in pairs? Here's an example: "If students will work in pairs, explain the need for cooperation, quiet conversation between partners, and switching the role of keyboard operator every five or ten minutes."

The workbook is thoughtfully designed, with plenty of screens and other graphics, an index, use of color for emphasis, and even a special distinctive type font used consistently to represent command keystrokes. Every section provides review questions to check on learning. The teacher's manual has every page perforated for easy removal. For each lab there are learning objectives, answers to the review questions, and suggestions. There are also 20 pages of transparency masters for classroom use, including a simple "map" of the most important menus. A good glossary and bibliography are also provided.

The data disk solves a problem inherent in teaching word processing. Many skills are learned best while using relatively long blocks of text, but

most beginners are slow typists. It is unrealistic to expect them to enter large files at the keyboard. The files provided include the famous first chapter of *A Tale of Two Cities*, a poem by Byron, a collection of knock-knock jokes, and examples of errors in punctuation, capitalization and style.

AppleWorks Word Processing is based on a proven, field-tested method. Anyone teaching AppleWorks to beginners (whether young people or adults) would be crazy not to use it. (Computer Literacy Press, 353 East 10th Street, Gilroy, CA 95021-2373, 408/848-1483.)

HARDWARE & PERIPHERALS

The Club AT 286

From: Club AT, Inc.

Price: Monochrome system with one megabyte—\$2,100; other configurations available.

Reviewed by: Robert Beauchamp

The Club 286 offers an affordable option to power users. It has a maximum of 1 MB on the motherboard—that's 640K for programs and the rest for creating a RAM disk that will greatly speed up applications. It also comes equipped with a 1.2MB floppy disk drive. The review model came with a 360K floppy drive and a 20 MB hard drive as well.

The cost of this machine with a monochrome monitor and card? \$2,100. Included in that price is the \$68.40 it costs to boost the standard 512K machine to 1 MB. An EGA card and an NEC Multisync monitor will bring the price of the system up to \$2,607.

Most people who want to upgrade to a more powerful computer are going to be unwilling or unable to pay the premium price for a 80386-based machine, at least until pricing becomes more

competitive. A 286 is much less costly and has plenty of power and speed for most purposes.

We were able to set up the Club AT 286 in an afternoon. The NEC Multisync monitor was hooked up, the EGA card plugged in and dip switches set. The documentation was simple and straightforward.

At first the documentation was a little alarming, because of its no-frills type style. But it is amazingly jargon-free and tells the user what to do step by step, which jargon-burdened users will find refreshing. It has a friendly tone and offers simple explanations.

The megabyte of RAM makes it possible to run just about every program on the market. We had no compatibility problems with the machine itself, although some software simply isn't compatible with the EGA standard and wouldn't run with the EGA card. On the other hand, the big, high-end, memory-hogging professional software all ran fine. (A representative of Club AT said that some "shoot 'em up" type games may not run because the AT is too fast. He also said that IBM BASIC-specific programs may not run.)

We spent most of the review period running the types of applications that take up most of the computing time at the office; word processing, spreadsheets, databases—and games: *MultiMate* for word processing, *DataEase* for database management, and *Words & Figures* for a spreadsheet. For good measure we also played *Ogre* and *Ultima III*.

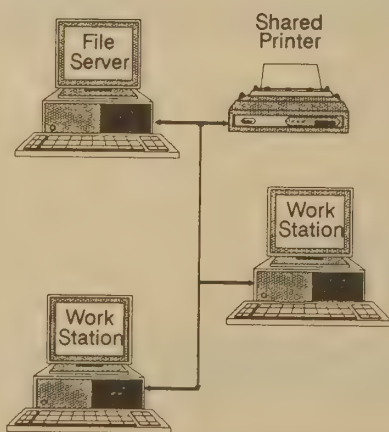
MultiMate has thousands of loyal office users, and the Club AT enhances its power. The EGA monitor and card made the characters sharp, clear, and much easier to read than on a standard CGA monitor. *MultiMate* allows the user to change the colors of the text, highlights, menus, etc. The colors on the Multisync monitor are much more

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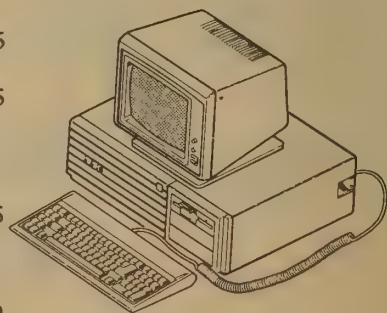
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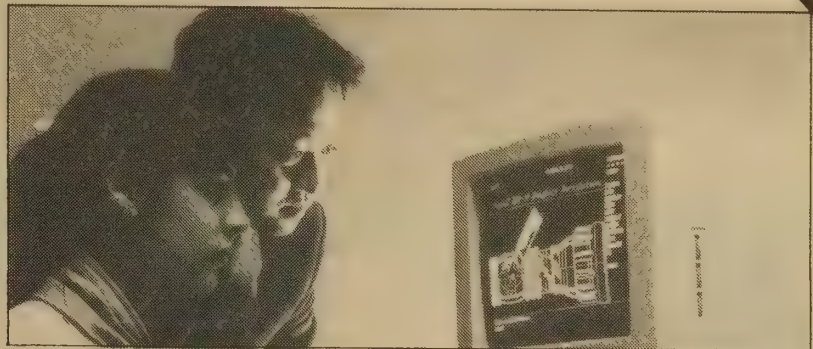
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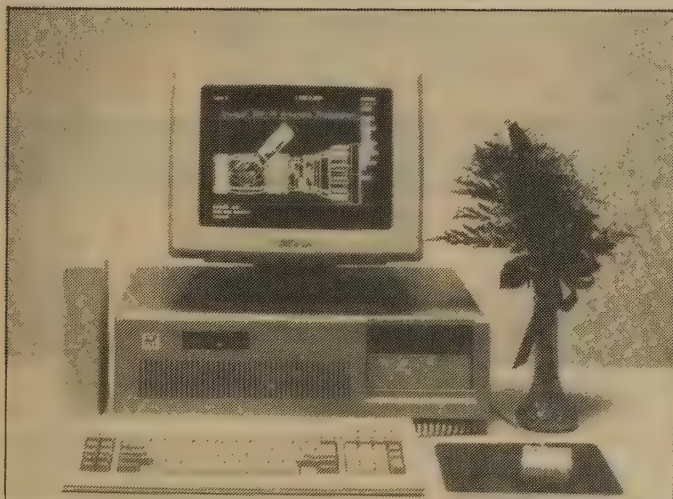
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interesting and pleasing to the eye than they are on the CGA, and are, of course, a great improvement over monochrome.

If you're used to a standard speed of around 4 or 5 MHz from a PC or compatible you'll appreciate the extra boost that the 10 MHz, 1 wait state, Club AT gives you. Loading time from the hard disk is fast, as is the time it takes to get through the opening MultiMate menus.

MultiMate has a vast array of powerful features that benefit from the Club AT 286. Repagination, scrolling, movement of large blocks of text, and the manipulation of large files are all enhanced by the extra memory, the hard disk and the 80286 chip.

The hard disk is also extremely helpful when using DataEase. DataEase is a form-oriented database. It allows a great number of fields per form, and all these fields can be accessed to create reports. Furthermore, users can create their own applications to link all these things together. The hard disk and fast processing time, combined with DataEase's menu based system, make these complex tasks transparent and fast. You really need to have a lot of memory and a fast processing speed if you hope to run today's powerful applications.

Words & Figures is a good spreadsheet for those who don't need the immense breadth of Lotus 1-2-3. It provides a word processor as well, hence the name, and allows the user to combine the two functions. The Club AT keyboard proved itself in this text and numbers juggling.

While the keyboard isn't as slick as the IBM version, it avoids the cheap appearance and feel of many clone keyboards. The touch of the keyboard is good, but not perfect; there are two bumps on the "F" and "J" keys which allow the touch typist to quickly find the "home" position. The function keys are lined up in two columns on the



left. The numeric pad is on the right.

The backspace key is only the size of a regular character key. This often leads to mistakes in correcting errors, which is doubly frustrating. The Club AT keyboard does avoid the major problem with IBM keyboards, however. IBMs allocate a lot of room for such keys as shift and caps lock, but only leave a space the size of a regular key for the place where your finger hits. In contrast, the return key on the Club AT is large, almost spacious. The Club AT keyboard also allows you to trade the placement of the escape key with the accent key by adjusting a switch underneath the keyboard.

The Club AT 286's speed was a great help playing games. Ogre, from Origin Games, takes a long time to set up without the joystick recommended by the manufacturer. On the AT, how-

ever, setup went relatively quickly. This game also benefited from the EGA monitor. The colors on a CGA are pink and powderpuff blue, more like a nursery than a nuclear battlefield; on the EGA it comes up fiery red and navy blue, much more martial. The Ogre Tank the game is named after also benefits from the AT. It calculates its plan of attack based on your defense. With the 286 processor you don't have to wait very long before you're blasted to pieces.

Speed also is a big help in playing Exodus: Ultima III from Lord British. It's hard to imagine this excellent fantasy role-playing game on a regular PC. The dangers faced lead to a lot of new characters being generated. And at four characters for each party, this gets tedious at slow speeds. It's also fun to watch characters move across the medieval landscape faster than Mario Andretti at Indy.

The Club AT 286 adheres closely to generally accepted standards for AT compatibles, but does not include some of the features other clones have added. While there is the standard AT key lock, there is no turbo switch. Color graphics, serial and parallel ports, and MS-DOS are all extra.

The Club AT offers all the power, speed and memory most users will need. Users can rest secure in the knowledge that someday, OS/2 will finally come down the line and take advantage of the capabilities the 80286 chip was designed for. Until that day, which will present a whole new set of challenges, users can take that extra memory beyond DOS's 640K limit and learn how to make a RAM disk. And watch what that does for speed. And in the meantime, the Club AT 286 will comfortably handle those huge applications, like MultiMate II, BoeingGraph, dBASE III Plus and Drafix Plus. (Club AT, 3401 W. Warren Ave., Fremont, CA 94539, 415/490-2201.)

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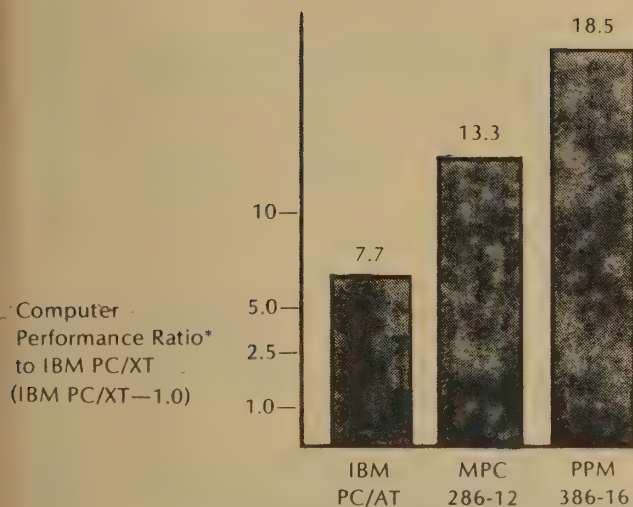
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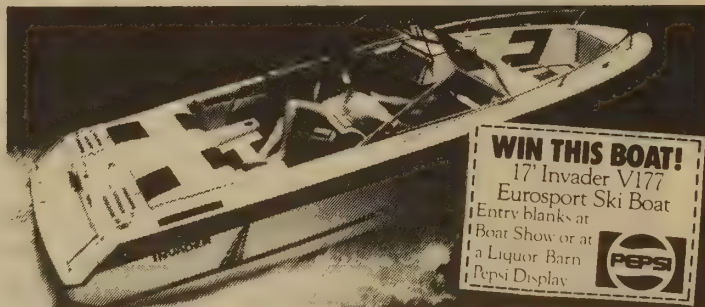
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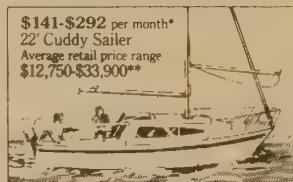
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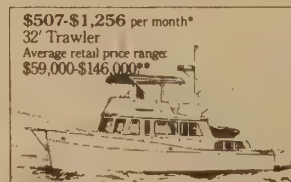
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REVIEWS

The Third Apple: Personal Computers And The Cultural Revolution

By: Jean-Louis Gassée

Published by: Harcourt Brace Jovanovich (1987)
hardcover, 212 pages, \$14.95

Reviewed by: Mike Markowitz

Every two hundred years or so, France sends America one of her brightest sons, to help us out with a revolution. In 1777 it was the Marquis de Lafayette. In 1981 it was Jean-Louis Gassée, father of three children and the open Macintosh. Like the Statue of Liberty, he is a transplant that has taken root here and thrives.

In most companies, the way to get ahead is to be more aggressive, more devoted to unpaid overtime, or more persistent in currying favor with the boss. At Apple Computer, it would seem, the way to get ahead is to be more visionary. With his first book, *The Third Apple*, Gassée stakes out as his turf the mountaintop vision platform vacated with the departure of Steve Jobs. The first apple, of course was the one Eve took from the serpent; the second apple was the one that fell on Isaac Newton's head.

Gassée is a mathematician by training and a marketing genius by vocation. He was largely responsible for the success of Apple in France. When the Macintosh came out, he took out a big ad in the French Communist newspaper, *l'Humanite*, saying "The time has come for a capitalist to make a revolution." Gassée loves puns and elegant turns of phrase. He notes ironically, that the term "compatible" is derived from Latin roots that mean "to suffer with."

Originally written in French (as *La Troisième Pomme*) the book is not a connected narrative, but rather a series of meditations, essays and anecdotes. Much of the argument is aimed at Gassée's fellow Frenchmen, decrying the inefficiency of the government-subsidized computer industry. Entrepreneur may be a French word, but Gassée finds that risk-taking spirit sadly lacking in French political and economic culture.

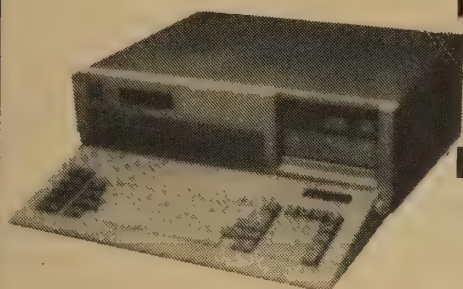
There are incisive character sketches of the major figures in the Apple epic: "Steve Wozniak, who represented the gentle side of things, an easygoing, reflective man, the incarnation of simplicity."; Steve Jobs, "that handsome and tragic character out of some novel, that visionary monster, aesthete, lonely, detestable and fascinating creature..."; John Sculley, "as virtuous and old-fashioned as Jobs is sensual and modern, but just as dazzling..." He quotes the famous challenge by which Jobs lured Sculley away from the presidency of Pepsi-Cola: "Do you want to go on selling sugared water to kids, or do you want to change the world?"

It was interesting to learn that Harmuth Esslinger, the designer of the Porsche 928, was commissioned to design the plastic case of the Apple IIc. The Macintosh case, however, was designed "by a disciple of the 1950-ish Raymond Loewy school" and looks distinctly old-fashioned to Gassée. "In ten years, these machines will probably look like postwar refrigerators, but in ten more they will be classics, like the jukeboxes that are coming back into fashion today."

Apple Computer is an important part of three or four million lives by now. Most of them will find much of interest in this book, which can be read in a few hours.

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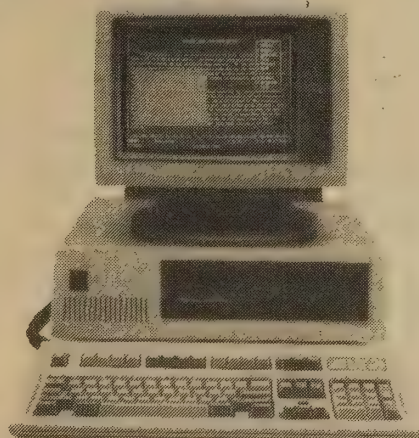
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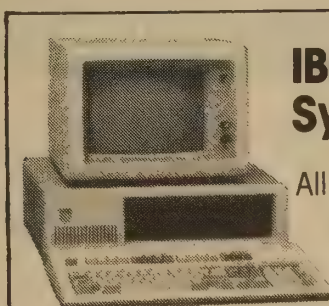
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Some of the stories, such as the fiasco of the Apple III, will be quite familiar to readers. It was disappointing not to see more inside information about the evolution of the Mac II, but the book was written when that project was still top secret. There is, however, a brief vision of a product we might see someday: "...all I need now is a truly portable Macintosh and a cellular modem so that I can visit some of the ten thousand libraries of Alexandria, do a little research, and then write my next book—all while sitting under a tree."

The Music Studio

Designed and

developed by: Rick Forrester, Greg Hospelhorn, Rick Parfitt and Peter Wickman

Published by: Activision (1986)

For: Apple IIGS (512K); color monitor and 3.5" disk drive required, supports only ImageWriter I and II printers, external speakers desirable

List price: \$79.95

Reviewed by: Mike Markowitz

The "S" in IIGS stands for "sound," but there hasn't been much software yet that taps the power of the Ensoniq synthesizer that Apple built into the new computer. Earlier Apple computers were, quite frankly, very inferior sound machines. Creative music people who use computers tend to favor the Amiga or the Atari ST, thanks to their custom sound chips and built-in MIDI ports (Musical Instrument Digital Interface—the new standard hardware specification for computer music).

The Music Studio from Activision is a professional quality composition tool that gives the Apple IIGS a fighting chance in this competitive market. It is also an almost magical teaching aid for music students. Music is a language of great com-

plexity, and the system of notation is a big obstacle for many learners. Consider how many great jazz and rock performers never learned to read notes. With Music Studio, you use the mouse to pick and place notes and other symbols on a blank staff. Your composition can be played back (live and in stereo) at any time, and there is a full set of editing tools. Lyrics can be written in right under the music, and the whole composition can be printed out for your teacher, your record company, or the prize committee.

The Music Studio uses a slightly altered version of the standard "Macintosh" style user interface. It might be called "pull-down icons." When you click on some of the symbols on the main composing screen, a line of all the symbols of that type pops out (notes, rests, key signatures, etc.) and you can use the mouse to select the one you want. The action is very smooth and intuitive. If you select quarter notes, you can keep adding quarter notes with every mouse click on the music staff until you decide to select another symbol.

The list of features is extensive. Up to fifteen different color coded channels (instruments, or voices) can be used in a composition, and these can be divided among four independent "tracks." There are 45 pre-programmed instruments available on disk, and you can design new ones, with full control of attack, sustain, decay and release (these are the wave shape components that sound engineers use to describe the characteristic features of an instrument). The Classical instrument set includes violin, viola, cello, string bass, flute, oboe, clarinet, bassoon, harp, piano, guitar, celeste, and horn. There are also jazz, rock and "voice" instrument sets.

The program supports both the RoomMate powered speaker system made by Bose (and marketed by Apple under its own logo for the IIGS) and the Super Sonic Stereo Card from MDIdeas. I plugged a

pair of \$8 Sony Walkman type speakers into my IIGS, and the quality of the sound is superb, although the volume cannot be cranked up very high. With a MIDI interface card, The Music Studio can be used with the Casio CZ101 and CZ3000 keyboards, the Yamaha DX-7 keyboard, RX-15 drum machine, TX-7 synthesizer, or other MIDI-compatible devices.

The file handling utility is similar to the IIGS Program Launcher—in other words, it is hard to use, and only shows you a partial list of what is on your disk at any time. Something more like a Desktop with icons would have been preferable, but this involves a lot of programming overhead. You must remember to use the correct filetype extension when you save your own files: .SNG for songs and .SND for sounds. There is no room on the program disk for user files—remember to keep a formatted blank disk on hand.

On the ImageWriter (which is the only printer supported) the quality of the sheet music printout is excellent. The program does not model all of the complex dynamic markings and symbols of musical notation—for example, notes can only be joined by a tie if they share the same pitch. The "tail" of a note symbol always points in the same direction—upward. The manual should have included some suggested tips and hints for "transcribing" printed sheet music into The Music Studio.

The Music Studio rates an "excellent" in graphics, ease of use and ease of learning. Performance (i.e. sound quality) depends on your hardware investment, ranging from poor with no external speakers to excellent with a stereo card and high-quality speakers. Documentation is good, but could be improved. Overall, this is a very good value for any GS owner with even the slightest interest in music. (Activision, 2350 Bayshore Parkway, Mountain View, CA 94043. (415) 960-0410.)

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- 16 Bit 8088 at 10/4.77 MHz
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- 768 KB RAM Standard
- Serial, Parallel, Light Pen Interface
- Built In Mono/Graphic/CGA Adapter
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WYSE 286 Multisync Vega DeLuxe **\$2795**

- 20 MB EGA SYSTEM
- 80286 CPU 10/6 MHz Front Panel Selectable
- NEC Multisync 800x560 Resolution
- 20MB Hard Disk
- Video 7, Vega DeLuxe Auto Switch
- MS DOS 3.21 Enhanced Version
- One Year Warranty

WYSE 2112 New CPU 12.5/8MHz **\$1895**

- Modular System Architecture
- 1MB Fast RAMS
- Front Panel Status Display • Small Foot Print

WYSE 2108 New CPU 8 MHz **\$1455**

- Same as 2112 except 512K RAM
- 8MHz 80286 CPU

PRINTERS

Brother 1409	\$359
Brother 1509	395
Brother 1709	565
Brother HR20	399
Brother HR40	735
Panasonic 1091i/1081i	315/249
NEC P7/P6	635/489
Toshiba 321 SL	CALL
HP LASER JET II	1795

MONITORS

Sony Multiscan	\$625
NEC Multisync	565
Casper EGA	399
Casper Mono 12"	99
Samsung EGA	369
Quimex 14" Mono w/Tilt & Swivel	135
Samsung 14" Mono w/ T/S	99

MODEMS

Volk Internal 1200 (Hayes Comp)	\$109
Avatex 1200 HC External (Easy Install)	129
Signalman 2400 External (Fast)	309
Everex 2400 Internal	199

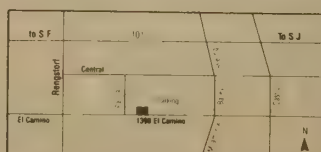
ADD ON CARDS

EGA Video7, Vega Deluxe	\$325
EGA 648x480	239
EGA Paradise Autoswitch (Hercules Com.)	189
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AT Memory Expansion (EMS) 2MB, OK	139
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SYSTEM MEMORY

All of the system memory is on a true 32-bit board, the same as the COMPAQ 386. Using 100 ns Static RAM, the system is expandable to 10 MB without occupying an extra slot.

- No refresh time to waste as DRAM
- Works as EMS and EEMS for Lotus, Desqview & Microsoft memory specifications. No Intel Above board is needed.

SPEED SELECT

The system speed can be switched to all possible frequencies to prevent conflict (16, 8, 6 & 4.77 MHz). At 16 MHz (SI=18.4) it is equivalent to a 20 MHz AT 286, 3 times faster than an 8 MHz IBM AT.

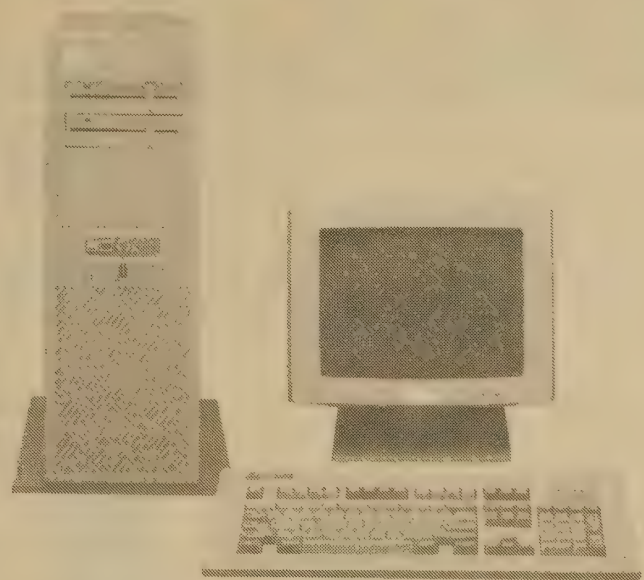
BIOS RELOCATION

The system comes with 1MB of RAM: 640K for DOS, and 384K for system use. The Phoenix BIOS & EGA BIOS can be relocated into the 384K, 100ns Static RAM.

- OP SYS execution becomes ultra fast.
- EGA acts as fast as the 32-bit card.

80287 CO-PROCESSOR

The 80287 math chip can be operated from 16 MHz down to 4 MHz. In other words, any 80287 chip can be used in the machine, unlike AT 286s where the speed must match.



~~\$2495~~ **\$2195**

INTEL 80386-16 16 MHz CPU

- 1.2MB TEAC Drv. reads, writes & formats 360K & 1.2 MB
- 200 Watt UL listed Power Supply.
- 8 Expansion slots. (1) 32-bit, (5) 16-bit, (2) 8-bit.
- 16-bit Western Digital H-Disk and floppy drive ctrl.
- 1 MB of 100ns Static RAM (expandable to 10 MB).
- Maxi Switch keyboard with tactile feel. Reset switch.
- Either Phoenix or Award BIOS is available.

Tips from Z-Tech

The nicest feature of the 386 computer, other than its 16 MHz CPU speed, is the speed-up cache memory above 640K. Here is where many 386 clones miss the boat. Most 386 clones have 512K on board, but to expand the memory a 32-bit memory board is needed, which doesn't exist yet. So you end up with a 16-bit memory expansion card using DRAM, which slows down the machine.

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40MB ST-251 40m	.499	LQ 2500	.899
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EVRX Modem.	.109	LQ 1000	.589
Logimouse C7 Plus	.85		

HP LASER II ~~\$1749~~ \$1699

Casper Monitor	.109	EGA Everex	.139	.99
EGA Casper	.399	EGA Everex Delux	.169	.209
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Sony Mul-scan	.619			

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- 16-bit controller for 2 HD (up to 200-MB each) and 2 FD.
- 8 expansion slots (2 short 6 long).

FREE Monitor

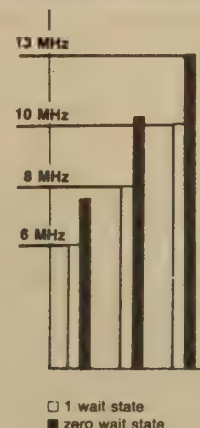
- Ser/per clock with a chargeable battery, no need to replace ever.
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- Keyboard with Tactile feedback.
- Hardware reset on front panel.
- Custom Eprom and 80287 sockets.
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Your PC As A Fax Machine

By Ken Milburn

I have a modem hooked into my PC, and every story or column that goes into my computer gets transmitted straight to my editors that way. But it's not enough. Usually I have to mail screen shots on disk or film. Sometimes I have to plot or print an illustration and FedEx it overnight to get it there on time. Almost every column means sending a signed letter of "request for product" to a publisher or manufacturer. Since they require a signature (and sometimes a clipping or two), the modem isn't much good for that either.

These are situations that the standard Hayes-compatible modem and a PC just can't face (at least not very elegantly). You probably have similar situations in your business.

A facsimile machine could solve those problems, but good ones cost upwards of \$3,000. Also, to use one to send a document, I have to go through extra steps to produce hard copy before I send it. Finally, if I receive a fax from someone else and want to get the data or graphics back into my computer, I have to buy a scanner and go through yet another step.

So I started looking into the possibility of using a PC expansion card. Since most of them list for under \$1,200, I could buy a scanner and still save a grand off the price of a fax machine.

For once, the reality turned out to be better than the dream. Turns out you can integrate the card not only with your PC, but your scanner, desktop publishing software, drafting and illustrating software (any business application that can produce an ASCII file) and with your laser printer.

One reason the idea makes so much sense is that fax uses the most well-established and compatible world-wide data-communications network available today. Almost all (98%) of the fax machines in existence, whether computer-controlled or standalone, use a single communications standard, CCIT Group III facsimile.

The PC can automate and integrate facsimile to such an extent that significant productivity increases over standalone fax machines are realized. Even when surrounded by a computer, fax is much easier to use than other forms of computer-to-computer communications. Images received through computer-resident fax automatically have the potential to be edited and manipulated by the computer's software, eliminating re-drawing, re-keying or re-scanning.

Fax is an especially effective means of trans-

mitting data in the graphics community because the files are always bit-mapped images at relatively high resolution. Add-on software for some systems will convert a received file to either machine-readable text or to a variety of graphics formats (including AutoCAD-compatible drawings).

FAX OPTIONS

There are three basic levels of flexibility when it comes to the electronic transmission of drawings via facsimile: standalone fax machine, computer-controlled fax, and computer-controlled fax used with a laser printer and scanner.

Standalone machines simply transmit an image of a legal or letter-size page to another facsimile machine. The image of a full page can be sent anywhere in the world in less than 30 seconds. It is of no consequence whether the image was made by a pencil, typewriter, camera or whatever. Image quality varies from machine to machine, but the differences are due to the mechanical capabilities of the hardware at either end of the transmission. Dot resolution is standardized for CCIT Group III fax at either draft-quality (200 × 100 dots) or "high resolution" (200 × 200).

An order of magnitude is added to potential productivity and cost-savings when the facsimile machine is integrated into a desktop computer. The computer can automate transmissions so that numerous messages can be sent during low-cost transmission hours and to numerous recipients, all unattended. That saves labor costs, as well as phone bills.

There's no need to print hard-copy in order to send a fax. Images composed on the PC can be sent directly, and could even be interactively edited at remote locations.

Unfortunately, computer based fax can't read paper documents unless a scanner is attached, and only the more expensive 24-pin dot matrix printers can approach the level of hard-copy quality of a self-contained unit.

Adding a laser printer not only offers superior resolution, but glamorizes the paper copy by printing it on whatever bond you choose. Usually, the fax software includes some means of further enhancing the image, either by editing it in a "paint" program or by algorithmically converting it from 200 to 300 dpi. (Versions of either *Dr. Halo* or *PC Paintbrush* are included with most fax boards).

The integration of fax card, scanner and laser gives you all the advantages of both standalone and PC-based fax—and much more. Sending scanned material directly through the fax software to the laser printer gives you a low-volume photocopier. You can bring all the power of a complete graphics/publishing workstation to bear, both in composing documents for transmis-

sion and in manipulating and enhancing received images.

BELLS AND WHISTLES

The precise amount of synergy in such a combination will depend on the features and compatibility of the specific brands of components and software used in such a system.

Wouldn't it be wonderful if a field engineer could transmit a sketched detail from his location on the South American project to the PC at the home office in Albuquerque, where it was automatically converted to an AutoCAD file, edited into final form and instantly re-transmitted back to Rio?

Such a scenario is doable. Microtek's *CADMate*, a software utility, will convert any image scanned by Datacopy or Microtek scanners to .DXF format drawings, which can then be used by most PC-based CAD packages. Better yet, if you have Advanced Vision Research's turn-key scanner/fax/laser system, the image can be converted from raster to vector directly from the fax file, eliminating the need to re-scan.

The same engineer could also transmit his typed notes, along with his sketch. Chances are, the home office needs to incorporate those notes into other reports. Many scanners can be had with Optical Character Recognition software (usually at extra cost). Ideally, this software could eliminate the need for retyping the transmitted report.

However, it's important to note that OCR software varies greatly in its ability to recognize typewritten or typeset characters. Most will recognize only a few Courier and Prestige (evenly spaced) fonts. Some, like Datacopy's *OCR Plus*, can be user "trained" to recognize virtually any computer- or typewriter-produced typeface. Trainability is important for another reason: PC-based fax must automatically compose bit-mapped fonts when generating a transmission. Non-trainable OCR software may not recognize the characters generated by another user's fax card. Conversely, you'll want to be sure that the characters generated from ASCII files in your own system are commonplace enough to be recognizable by "dumber" OCR software at the destination.

Most OCR software is scanner-based, which means that you'll print the fax and re-scan it in order to avoid re-typing. In the process, you run the risk of losing definition—so the OCR software may misinterpret characters.

A few manufacturers can provide software that recognizes characters from the fax card's preview screen. The best example we've seen of this is Advanced Vision Research's, which can even be trained to recognize (neat) handwriting and a

Copyright ©1987 by Ken Milburn. All rights reserved. Ken Milburn is a freelance writer on Microcomputers. His articles have appeared in numerous computer publications, including PCWorld, InfoWorld, Computer Graphics World and MicroTimes. He also does system configuration for small businesses. He can be reached at (415) 331-6926 or by sending E-mail to (ken) on the WELL, (415) 332-6106.

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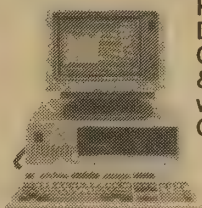
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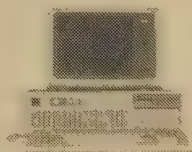
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Color graphic with printer port	 \$55
Color graphic card (RGB & composite)	 49
Color graphic plus monochrome adapter	 85
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Paradise EGA Autoswitch 480	 359
Everex Micro Enhancer 1/2 size (Hercules compatible)	 150
Sigma Designs, color 400 with Princeton SR 12 Monitor	 750
Mono card with printer port/Mono graphic with printer port	 49/65
Excelerator Turbo Board for XT and PC	 300
Sigma color 480	 270
Everex the edge	 230

I/O CARDS

Disk controller, ser & par with game & clock	 \$70
Disk, 2 ser, 1 par with game & clock, 2nd ser opt.	 80
Ser, Par with clock (XT); ser with par port (AT) by Everex, 2nd ser opt.	 60
Serial or printer card or serial with clock	 25/40
Dual game port or clock card	 30

MODEMS

300-1200 baud - internal/external	 \$79/135
Qubie 2400 baud - internal or external	 240
Everex 1/2 slot 1200 baud or 2400 baud - internal	 90/175
Avatex 1200hc or 2400 (external)	 135/240

MEMORY UPGRADING

256K memory card with printer port w/OK memory	 \$55
640K memory card with OK	 35
Sigma Maximizer w/OK Ram or w/384K	 140/190
Everex multifunction card w/ OK RAM or 384 RAM	 100/152
AST-6 Pak w/64K & Sidekick sftw	 150
AT multifunction up to 1.5 meg w/OK	 135
AST-6 Pak w/256K & Sidekick sftw or with 384K	 165/185
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AST RAM Page with 256K (PC) EEMS	 285
AST RAM Page 286 w/512K expandable to 2 MB (EEMS) AT	 419
Vega Deluxe by Video 7 with 256K	 295
Tall Tree J. Laser Plus (PC) or (AT) with OK can expand to 3 meg	 410/475
Everex RAM Card (AT) can expand to 3 meg (OK)	 139
Everex EMS card for XT/PC with OK - can expand to 2 meg	 100
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256K motherboard w/OK - 256K w/BIOS-8 slots	 \$80/119
640K motherboard w/OK - 640K w/BIOS-8 slots	 99/159
640K Turbo motherboard, 2 layer with OK/640K w/BIOS-8 slots	 99/169
640K Turbo motherboard, 4 layer with OK/640K w/BIOS-8 slots	 120/185
Faraday PC motherboard, 5 slots with 256K	 105
Faraday PC motherboard, 8 slots with 2 ser, 1 par, 640K	 165
AT motherboard with OK-8 MHZ or 10 MHZ by Everex	 410/450
Small AT motherboard w/Award Bios w/OK can expand 1MB	 350
DTK AT motherboard w/Bios w/OK can expand to 1MB	 345

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DTC, Omti, or Western hard disk controller with cables	 \$80
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DTC hard disk controller with cables #5160CX (RLL)	 100
DTC-AT floppy & hard disk controller with cables (RLL)	 180
1.2 MB floppy controller with cable (XT)	 75
Floppy disk controller (for 4 DR/2 DF) with cables	 40/30
WD AT floppy & hard disk controller with cables	 140
1.2 MB floppy controller with cable (XT)	 75
Everex floppy & hard disk controller w/cable	 135
20 meg hard card (plus development) 40 ns access time	 630

HARD & FLOPPY DRIVES

Toshiba 3 1/2" disk drive kit (PC or AT-int.), external by Powerhouse	 \$129/265
Teac 55BV/1.2 meg for AT-1/2 height drive	 85/125
Fujitsu M2551A 1/2 height drive, external by Powerhouse	 75/225
Seagate ST225, 20 meg w/controller & cables	 289
Seagate ST238, 30 meg w/RLL type controller w/cables	 339
Tandon 1/2 height 10MB hard drive with controller and cables	 199
Full height hard disk by Quantum Q540	 509
Full height hard disk by Seagate ST4038 (30MB) formatted	 509
1/2 height hard disk by PMI - 40 meg PM338	 469
Teac 20 MB streamer tape drive with controller (Everex)	 490
Archive 60MB streamer tape drive with Sysgen controller	 490

MISCELLANEOUS

AT case/XT floptop case	 \$75/33
XT slide-in case/XT & AT look-alike case	 35/40
Sigma Chasis-9 slots, 100W PS, 1 pair tranceiver card w/cable	 640
Eprom eraser (6 at a time)	 43
Logic mouse or 3.2 MS DOS or PC 3.1 or 3.2 DOS	 75/75/70/81
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fair percentage of typeset documents.

There's also a great deal of variation in the capabilities of the fax cards themselves. Some cards have on-board processors that allow them to perform their services at the same time the computer is being used for full-time design or business chores. Others will run in the background, but at an increased cost in RAM overhead—it will also slow the processing of other tasks by sharing time with the processor. Still others stay memory-resident (like SideKick), until they are called with a Hot Key.

Then there's the possibility that you may not want the board and its attendant software to work unless it's the foreground operation. This will be the case if you don't want to install a separate phone line or can't afford even the small amount of system overhead that "smart" concurrent boards impose.

Even boards that don't process in background can do so in conjunction with a multi-tasking system like Windows or DesqView 2.0. All PC-based faxes, like their dedicated brethren, will "poll" the machine being contacted to see if it's ready to accept a fax. Cards that run in the background will also allow themselves to be polled.

Several of the fax cards we surveyed will automatically place calls and transmit documents to a list of recipients. Called "broadcasting" in the fax vernacular, this process shows varying degrees of refinement. The most sophisticated systems can be programmed to automatically broadcast at a specific time of day, unattended, and can handle multiple lists and documents.

Some cards let you select any number of files for sending to any number of phone numbers. Others let you send multiple files to multiple

destinations, but severely limit the number of files/phone numbers you can designate.

Some PC/fax systems can combine images from several files into a single file, so you could place the same signature and letterhead on any number of documents. Or you could scan a drawing and place it on the same page as notes from another file. Some can even automatically place letterhead and signature above and below text as the fax software is translating from an ASCII file.

STILL A FEW PROBLEMS

Since the bit-mapped images which form facsimile-transmittable files can be quite large, images must be compressed to further speed transmission. Of course, the elegance with which this is done varies from brand to brand. The most desirable systems automatically compress a file before they dial the destination facsimile machine. Some systems automatically compress while the image is being sent and decompress as they are receiving, but this makes the transmission take longer. The most basic systems require that you separately specify compression before transmission and de-compression before editing.

A few fax cards require the use of one of your computer's serial ports. Although DOS 3.3 allows up to four serial ports, those who haven't updated will find themselves with but a single port left over for their pointing device and plotter or laser printer.

Furthermore, it's easy to find yourself "slot-bound." For instance, the Datacopy system requires slots for both the fax card and scanner.

If you're on a single phone line that you use for both voice and fax, it's best to be able to dial and send manually. The Datacopy card, for

instance, lets you call another party, tell him you're ready to send and then punch a key to start sending when the receiving machine is ready. After sending, voice will re-connect, so you can continue your conversation. Cards without a similar feature might require the use of a dedicated line in order to be practical, since no one wants to open their machine or disconnect cables just to send an occasional fax.

SOMETHING COMPLETELY DIFFERENT

When last we met, via this column, I promised a new column on graphics for business. Well, the best-laid plans of mice and men sometimes go astray. A new contractual arrangement with another publication prevents me from delivering any additional columns. So we'll continue to talk about graphics frequently in this column, along with other matters of PC synergy.

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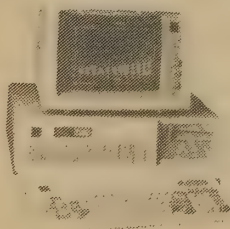
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RLL controller
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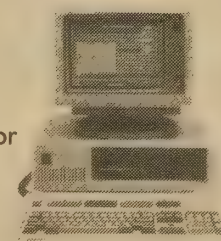
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INTERFACE CARDS:

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Floppy disk controller	23
Monographic/printer card	55
Color/printer card	56
Color card	47
1.2MB floppy disk controller	65
EGA card	145
W.D. WX1 hard disk controller/cable	75
W.D. WA2 hard/floppy disk controller/cable	165
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My Mama Didn't Raise No Accountant

By Warren Sirota

Over the years, I've had a wide variety of database projects come my way, touching on subjects as diverse as animal husbandry and mainframe system performance analysis. However, the one subject that keeps coming back like a bad penny is Accounting (I did it! I said the "A" word).

Friends, I'm a programmer. If I wanted to be an accountant, I'd go get an MBA, learn double-entry techniques, and buy some non-paisley suits and ties. As it is, I'm more interested in tricky algorithms and clear user interfaces than in proper accounting procedures. My only concern with accounting issues, and possibly yours as well, is to deal with them when they come up in an efficient and professional manner, without re-inventing the wheel for every customer.

Accounting systems deal with the flow of money, so it is critical that they be reliable, complete, and "in accordance with commonly accepted accounting practices." Such systems must deal with a multitude of details and must be thoroughly tested, and so can easily take months to develop. If your application has an accounting component, you might do well to adapt an existing package for your own use.

dPROFESSIONAL

For dBASE developers, SBT Corporation offers an attractive solution. They sell various accounting modules along with dBASE source code, which you can customize to your heart's content. Another programmer and I, together with a client, have recently performed such a customization. Under very tight budget and time constraints, we were able to successfully transform SBT's dProfessional Time And Billing Accounting System into a well-received system for managing parking lot accounts.

The system which we developed, by the way, is currently being marketed by Scott Business Computers, Inc. under the name *Lot Simple*. The point here is not to plug the product (I don't imagine that this column has many parking lot chain owners in its readership), but to point out that SBT has an interesting policy towards redistributing its code. If you are developing a product that is geared towards a specific vertical market, then you can probably become an SBT VAR (Value-Added Reseller), which allows you

Accounting systems must deal with a multitude of details and must be thoroughly tested, and so can easily take months to develop. If your application has an accounting component, you might do well to adapt an existing package for your own use.

to distribute the SBT code as part of your application. You pay SBT a royalty on each product that you sell, which may be from 15% to 30% of the list price of the SBT product, depending upon how much of the code you've used. Before you develop your application, however, you should contact SBT to see whether it would consider the program a legitimate VAR product or a competitor to its retail distribution channels.

Lot Simple is a legitimate VAR application, because it is directed specifically at a particular vertical market. The use of the SBT accounting modules in the parking system turned out to be a marketing asset for Scott Business Computers. Tom Benson, President of Scott, reports that "customers had more confidence in the software when they learned that it was based on the SBT code."

THE dPROFESSIONAL MODIFICATION EXPERIENCE

dProfessional is a billing package modeled on the needs of a large law office, or even a collection of law offices (like all the other SBT modules, dProfessional can handle accounts for up to 99 companies). Our job, in customizing dProfessional to the needs of our hypothetical parking lot customers, was mainly to simplify and to change prompts and screen appearances. We found that, with several exceptions, most of

the work in altering dProfessional was in understanding the program's capabilities, commenting out those that were irrelevant to the parking business, and changing some prompts to make them more understandable to our target market.

It was relatively easy to find the places where changes needed to be made for our application. There was one place where we made a change to program logic which resulted in some unforeseen side-effects, but we were able to remedy that with little trouble, once we noticed it. This just drives home the lesson that care always needs to be exercised while modifying programs, especially in testing the modifications.

Most of the modifications that we wanted required a little thought, but worked out in a straightforward fashion. Some of the SBT programming conventions were different from what we expected, but they were at least readable and comprehensible. In particular, we noticed many repeated blocks of code that we would have split off as separate subroutines (and, in some cases, that is exactly what we did, to ease our modification process). Fortunately, this did not present any serious impediment to working with the code. dProfessional is written to handle the most complex situations, so that most changes will be simplifications. Commenting out existing features is much easier than adding absent features, so it seems that SBT has chosen the right direction.

We were very impressed with dProfessional's completeness. It included just about every report that we could possibly desire, including client aging. It included a capacity for generating recurring billings, which was crucial to our application (although we made it an automatic process at billing time rather than a menu-triggered process), and also included capacities for tracking billings by employee and project, which could be extremely useful in other contexts, although they went far beyond our purposes of the moment.

Furthermore, SBT provides additional support to VARs, including classes and a BBS with many useful SBT-related files and public domain software. A *Programming Standards* manual is also available from the company, which offers valuable insights for making changes to the code without compromising its integrity. The commented File Listings section in the dProfessional manual is well done, and a big help in understanding the system. All in all, we had a very positive experience with dProfessional, and would not hesitate to attempt modification of other SBT products. (dProfessional, SBT Corporation, One Harbor Drive, Sausalito, CA 94965, 415/331-9900.) □

Copyright ©1987 by Warren Sirota. All rights reserved. Warren Sirota is a database consultant with experience in a wide range of languages. He also composes and programs computer music. He lives in Oakland and can be reached at (415) 482-3979.

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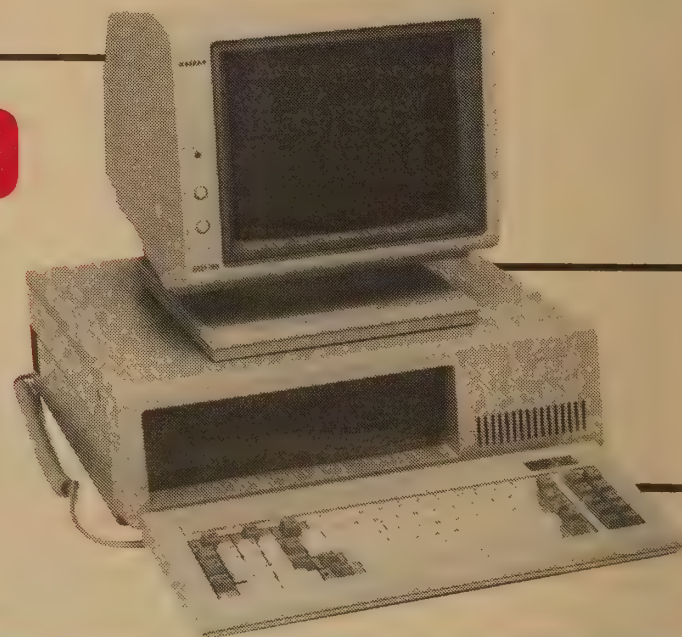
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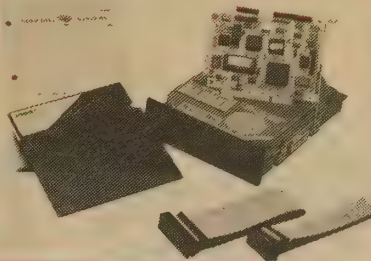
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UNIX Meets The 80386

By Bennett Falk

New hardware is a fact of life. It may not always be as plentiful as it is right now, but there will always be new hardware. And for the past 18 years, UNIX (in one form or another) has routinely been ported to the new hardware of the day.

If this is to be the year in which computers running Intel's 80386 processor become a mass market item, it is hardly surprising to find commercial ports of UNIX to these machines. With OS/2, the multi-tasking descendant of Microsoft's DOS, still unavailable, these UNIX products are of more than passing interest.

First of all, the 80386 machines are a great step forward. The 386 is a fast (nominally 16 MHz), 32 bit processor from the same family of processors used in the IBM-PC. Because it's a 32-bit processor, it can address huge amounts of memory ("huge" here means up to four gigabytes), and therefore is ideal for developing applications that formerly would have required bigger (and costlier) computers. Because the 386 is compatible with its predecessors, it can run the familiar DOS programs at lightning-like speeds. In addition, the processor has the capability of pretending to be a number of 8086 processors, each running its own task as though it had exclusive access to the CPU and memory; effectively, multi-tasking is supported directly by the processor.

Of course, you'll need an operating system that makes this power usable. A good 90% of the 386 machines sold to date are running DOS, and while it's fun to run the flight simulator at twice the speed of sound, it's still a waste of the processor.

OS/2 will exploit some of the 386's features, but it is still basically designed for the 80286 processor. If it reaches the market in a timely fashion, it will be a good way to make the transition to the 386, offering both a way to hang on to existing applications and a set of tools for software development that will be extensible to the 386. Apart from compatibility with DOS 3.x, OS/2 supports the 80286's "protected mode," provides a windowing user interface for monitoring multiple tasks, and re-defines the way in which PCs access peripherals.

UNIX FOR THE 386

The first 386-based UNIX products to appear are, quite naturally, extensions of the versions of UNIX that run on the 80286: on one hand, UNIX System V from AT&T, which was marketed with AT&T's 6300 Plus line of computers as well as its non-Intel-based machines, and XENIX System V from Microsoft, running on various machines using the Intel family of microprocessors. (Very early on there was a version of XENIX System III for the 68000-based Apple Lisa, but that product was never widely accepted. Subsequent XENIX development has proceeded almost entirely on computers based on Intel processors.)

If you've been watching the trade press, you may remember an announcement from AT&T and Microsoft made earlier this year concerning the development of UNIX for 386-based computers. The companies agreed to work toward object code compatibility between their UNIX products in 1988. AT&T's UNIX will be able to run programs created for Microsoft's XENIX, and for the first time ever, products like XENIX may be marketed with the UNIX name.

The agreement between AT&T and Microsoft hasn't slowed down the rush to get 386 UNIX products to market this year. In mid-July announcements showed up from the Santa Cruz Operation (SCO) and Microport, two companies with UNIX products for computers in the PC family. Both were eager to announce the availability of 386 versions of their UNIX products.

SCO XENIX 386

The Santa Cruz Operation was the subject of a *MicroTimes* cover story a few months ago (February 1987). SCO's product is SCO XENIX, based on Microsoft's implementation of UNIX. (Nomenclature is important here: there are several XENIX products on the market, all ultimately traced back to Microsoft. It's possible, for example, to buy XENIX ports for PC/ATs from SCO, IBM, and Microsoft. Each port is different.)

SCO is now shipping a 386 version of XENIX. SCO XENIX 386 is a significant re-working of the company's XENIX for 80286 machines. SCO's promotion of XENIX 386 concentrates on the use of Microsoft development tools (Release 5.0 of the Microsoft C compiler was used to produce the new system) and the new system's compatibility with XENIX 286. XENIX 386 promises to be a powerful software development system. The 386 version of XENIX incorporates a new virtual memory management scheme from Microsoft and takes advantage of the 5.0 compiler's ability to produce lean programs "heavily optimized" for the 386 processor.

Any comment on how, if at all, the user interface for XENIX 386 has been modified will have to wait for a hands-on session. The new product supports the "MultiView" windowing system to monitor several processes at once. One traditional complaint about XENIX System V concerns the holdover of some system administration facilities from UNIX System III (most notably the use of "/etc/ttys" to control login ports).

Significantly absent from the announcement was any mention of DOS compatibility. SCO markets a number of "work-alike" programs for XENIX that function like popular DOS programs such as dBASE III or 1-2-3, but at present there is no facility to run DOS or DOS applications under XENIX. XENIX does include utilities for importing files from DOS diskettes.

SCO has also announced the upcoming release of two system extensions to enhance the usefulness of SCO XENIX 386: SCO MultiView, a windowing environment which displays up to four applications running in concurrent win-

dows, and SCO VP/ix, which will permit DOS and XENIX applications to run concurrently.

MICROPORT SYSTEM V/386

Microport may be less well-known than SCO, but that can be expected to change. Microport's UNIX product line is based on a port of UNIX System V done at Intel under AT&T supervision. (Similar arrangements were also made between AT&T and other microprocessor manufacturers as part of a 1983 program to promote UNIX as a standard throughout the microcomputer industry.) The intention behind the original work done at Intel was to have a generic UNIX for Intel processors.

Microport's System V/386 is, consequently, a straightforward, non-proprietary UNIX system boasting all the features of UNIX System V Release 3, including demand-paged virtual memory management. This system, too, should be excellent for software development. System V/386 uses the AT&T 386 C compiler and includes the full complement of UNIX development tools, including the source code control system (SCCS) and the symbolic debugger (sdb).

Microport seems to have no windowing system to monitor multiple processes on a single screen. (Both XENIX 386 and System V/386 support a number of full screen windows attached to the system console, each of which can support a work session.)

The interface for system administration is the standard one for all AT&T System V products. This is both good and bad news: if you've ever worked with the system administration utilities on an AT&T "3B" series computer, you will be right at home. Unfortunately most of the system administration jobs are driven by shell scripts, and are both slow and dull. (One bright spot for system administrators is the inclusion of SysView with System V/386. SysView is a screen-oriented, menu-driven tool for monitoring system activity, developed using the TaskForce V menu system. TaskForce V was discussed in this column in May 1987.)

An important feature of the Microport announcement is "DOS Merge." DOS Merge 286 allows one DOS process to be run simultaneously with normal UNIX activity; a 386 version will allow multiple simultaneous DOS processes. In either case the UNIX file system is available to the DOS process, and data may be exchanged via pipes between UNIX and DOS environments.

SCO's XENIX 386 and Microport's System V/386 are both available now and offer many, if not all, of the features expected from OS/2. Both are exciting products just beginning to enter the market, and you can expect to hear much more from them in the months to come as they begin to unlock the potential of the 80386. (The Santa Cruz Operation, P.O. Box 400, Santa Cruz, CA 95061, 408/425-7222. Microport Systems Inc., 10 Victor Square, Scotts Valley, CA 94066, 408/438-UNIX.) □

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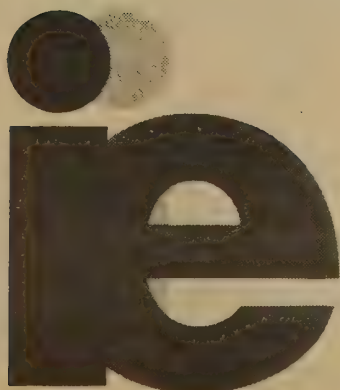
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Great Animation, More Memory, And DAs On A Chip

By Helmi Kobler

If you think Antic's just a magazine, you'd better think again. The Catalog, (415/957-0886) Antic's commercial software division, has introduced several hot products that give the ST some tremendous graphics production capabilities. Cyber Studio (\$89.95), a two-program package consisting of CAD 3D 2.0 and Cybermate, is the first such product. Although I hoped to go into detail about Studio, I realized that I could literally talk forever about it and its related products. So I'm settling for an introduction now and more on The Catalog's incredible Cyber products in future columns. In any case, stop thinking of Antic as only a publisher of magazines—its software will be turning heads from now on.

Cyber Studio is a graphics animation system that turns the ST into a complete digital movie production studio, where three-dimensional objects are created and animated, complete with special effects and sound.

Creating "movies" with Cyber Studio is similar to the stop-motion photography techniques used to animate everything from clay dinosaurs to X-wing fighters on film. Using Studio's CAD 3D 2.0 (one meg of RAM required), you create a three-dimensional object, "photograph" it, alter it slightly using CAD's tools for rotating, enlarging, reducing and moving objects (or by moving your camera's position), and then photograph it again. You get a bunch of pictures, or frames—each a little different from the last—that produce an animation when displayed in rapid succession. Very straightforward.

Cyber Studio's Cybermate editing language is then used to enhance those animations. Through programming in Cybermate's Forth-like environment, you can accelerate and decelerate the rate of frame display at specific places in an animation. You can also cut and loop frames, display text, and add special effects such as fades, dissolves and color shifts as well as sound effects created with The Catalog's G.I.S.T. sound editor.

It's a fairly exhausting process, but the results can be dazzling. Well-done animations have a near-cartoon quality and never suffer slowdown, regardless of their complexity. Pick up CyberScape, a 90 second feature film created with Cyber Studio, to get an idea of what can be done with the package. It's public domain, and comes with its own player.

Helmi Kobler took his first step into the computer world in 1983 when he walked out of Macy's with an Atari 800 in his arms. Still an Atari user, he's now inseparably attached to his ST. He can be reached through MicroTimes or e-mail <helmi> on The WELL at (415) 332-6106.

**I've noticed lately that
some of the newer ST
applications are becoming
memory hogs . . . making
your salesperson's
assurances that 512K or
even a meg was "all you'll
ever need" a little
less convincing.**

Still, creating fantastic animations takes a lot of time. It's exhausting work to rotate a sphere 360 degrees, for instance, when you have to record the rotation one degree at a time. Even less bearable is the thought of CAD taking a couple of minutes to calculate and save each frame. At two minutes to produce a frame—multiplied by 360 frames—you've got a time investment of ten and a half hours. And that's just to rotate a silly sphere!

As a solution, The Catalog is developing Cyber-Control (a public domain pre-release version is available now), a complete programming language that will automate that sort of tedious recording process. You'll be able to write a two-line program in Cyber-Control that will instruct CAD to rotate and record a 360 degree sphere rotation, in single-degree increments, all by itself. The process might still take several hours but you'll be free to do other things. Cyber-Control should be available from The Catalog in October for \$59.95.

As I said, look for more about this and other Cyber Studio-related products, such as CyberPaint and The Catalog's 3D Liquid Crystal Display glasses in future columns.

MEMORY UPGRADES FOR THE ST

I've noticed lately that some of the newer ST applications are becoming serious memory hogs. Packages such as CAD 3D 2.0 and Atari's laser printer can demand upwards of two megabytes of RAM for some applications, making your salesperson's assurances that 512K or even a meg

was "all you'll ever need" a little less convincing. Naturally, mammoth memory upgrades have begun to appear, and I spent a few weeks trying out a 520 ST two meg board from tech-specialties of Houston.

The 520C upgrade from tech-specialties's (\$495) is a sturdy, well-designed 4"×6" board of 32 one-megabit DRAM sockets, 16 of which are occupied by two megs' worth of DRAM chips. The remaining 16 sockets can be filled for a whopping four megabyte configuration.

Installing the board is straightforward and involves no soldering. Once a 520's plastic case and RF shield have been removed, the board is joined to the ST's Memory Control Unit chip by fitting several pins into the MCU's empty sockets. In some cases it's necessary to tape the upgrade down to the MCU chip. This is to insure that the upgrade's pins never lose contact with their sockets. The ST's Shifter chip is also removed from its 40-pin socket and attached to the memory board, which in turn replaces the Shifter on the ST's motherboard. Assuming you're familiar with the ST's innards, the board can be installed and your ST reassembled in 15 or 20 minutes.

Anyone with a little technical experience should have no problem following the six pages of installation documentation supplied. Less technical users, though, will no doubt be intimidated by the documentation's fine print and lack of illustrations. Especially with a few careless errors such as informing the reader to look for "a row of seven chips" when it's actually a row of seven pins he wants! A more user-friendly manual, minus the chip/pin confusion, however, was near release at press time.

In any case, once the two extra megs have been installed, giving you a total of 2.5 megs online (the extra 512K in one meg 520s must be disabled), you'll have plenty of room for all the hard drive caches, RAM disks, printer spoolers and desk accessories you want, not to mention enough work space for most imaginable CAD projects or desktop publishing with Atari's laser. Also, since the 520C upgrade board is detachable, you can salvage it from your ST's old motherboard in the likely case that Atari offers its new ROMs and blitter chip as a motherboard swap.

tech-specialties also manufactures one, two and four meg upgrades for 1040s and the new 520 STFM machines and also sells a 32-socket board without DRAMs for \$129. All upgrades are fully tested before shipping and come with a one year limited warranty. Contact tech-specialties Co. at (713) 590-3738.

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DESK ACCESSORIES ON A CHIP

It's rare when I find a product that becomes a routine part of my computing. Word Writer ST and Flash! are like that, for instance, they're booted at least once a day. The latest package I've found consistently useful is a little 3.5"×2" cartridge called DeskCart! (\$99.), from Quantum Microsystems Inc., at P.O. Box 179, Liverpool, NY 13088, (315) 451-7747.

Desk accessory fans will love DeskCart. In its 64K ROM chip are stored fifteen of the most useful desk accessories available for the ST, commercial or otherwise. And because they're stored on chip, with the exception of one 31K disk-based accessory, they occupy none of an ST's RAM and boot in an instant. QMI also built a lithium battery-powered clock into DeskCart, though it must be replaced by the company once its three to five year lifespan has expired.

Occupying only one spot in the Desk menu, DeskCart provides Atari's standard control panel and VT-52 terminal emulator accessories, and makes notable additions such as a calendar, notepad, card file data base, scientific calculator, address book, application-independent keyboard macros, common disk operations, a printer spooler and RAM disk. Whew!

The accessories are straightforward and easy to use, and it wasn't long after I got DeskCart that I had "accessorized" a good part of my life. DeskCart's accessories can be put to dozens of practical uses, but I found particular utility in its address book for quick-dialing phone numbers and printing mailing labels, its calendar system for tagging important dates with alarms and reminder messages, and its disk utilities option for renaming and copying files (delete,

Desk Accessory fans will love DeskCart. In its 64K ROM chip are stored fifteen of the most useful desk accessories available for the ST, commercial or otherwise. And because they're stored on the chip, they occupy none of an ST's RAM and boot in an instant.

format and disk status functions are also supported) without returning to the ST's desktop.

I've used the DeskCart for these and other applications with little hitch. Of course, since the cartridge interacts with other GEM applications, a few quirks are expected. I encountered minor problems, such as sporadic crashing with an early version of Flash! and some strange screen effects when accessories were called from Publishing Partner. DeskCart also seemed to disable my ScreenSaver auto-boot program from OSS. I never found crippling drawbacks to using the cartridge with any application, though.

So if desk accessories are more than cute novelty items to you, then check out the Desk-

Cart. It's a solid, workhorse little product that should have no problem enhancing some aspects of your computing.

And now a little update on management shuffles at Atari. Early in April, Atari appointed Jerry Brown, a computer industry veteran who had served over 20 years with IBM and Texas Instruments, as vice president and general manager of its U.S. operations. Jack Tramiel introduced Jerry to the press, saying, "We now plan to focus our efforts [of marketing the ST] on the United States, and Jerry Brown will play a major role in leading that effort."

Well, not too much of a major role. Come mid-July, Brown had left Atari abruptly and was heading back to his home in Texas. Apparently both parties realized they weren't such a hot business team. My bet is that Brown had a hard time fitting into what's very much a family business. Now Atari's got a new guy to sit at Jerry's old desk. According to a few sources, he's Walter Wilson, an ex-Apple executive. Here's to better luck, Walter.

Some news from the ST desktop publishing world! Soft Logik, the developer of the ST's premiere desktop publishing package, is working an enhanced version of its Publishing Partner software for release before the end of the year. Major additions in the new Partner include the rotation and skewing of text and graphics in one degree increments, automatic text-flow around regularly and irregularly-shaped graphics, group selection of multiple objects, and sizable and moveable windows. Also look for automatic hyphenation based on an algorithm (most likely with an exceptions dictionary), as well as file compatibility with First Word, ST Writer and WordPerfect.

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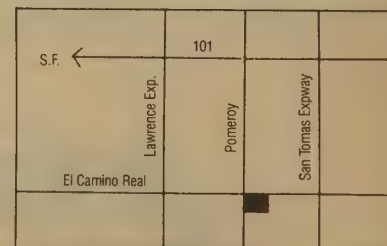
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AMIGA/COMMODORE

So You Just Bought An Amiga. . .

Tips For New Users

By Matthew Leeds

The Amiga A500 and A2000 are now shipping, with limited numbers of the A2000 and lots of A500s. I expect that this will shortly result in large numbers of new Amiga owners.

Since I qualify as an old hand at owning and using an Amiga, I thought that this would be a good time to hand out some free advice. The learning curve is steep for any first time computer owner, and I still remember what it was like when I took my new Amiga out of its box and plugged it in.

BUY A GAME

The first thing I suggest is: buy a game. Get something that will let you use your Amiga without learning commands, reading a manual, or working in the CLI (Command Line Interface). Get comfortable with the hardware. If you're into shoot-em'-ups, I suggest *StarGlider* or *SkyFox*. For arcade style non-violent fun, *Marble Madness* cannot be topped. If you like an intellectual challenge *Shanghai* or *Balance Of Power* are good choices, and for adventure gaming I like either *The Bard's Tale* or *The Pawn*. If you prefer sports simulations, *Mean 18* for golf and *Earl Weaver Baseball* are two excellent possibilities. Regardless of what you choose, enjoy your new Amiga with some recreational software.

GET A GRAPHICS PROGRAM

If you got your Amiga for its graphics capabilities, be sure to buy a copy of *Deluxe Paint II*. There is no finer graphics paint program available for any micro. *Deluxe Paint II* is the standard against which all other paint programs on the Amiga are measured.

All graphics programs on the Amiga use a file standard known as IFF. This means that you can move graphic files from one program to another without running them through a file conversion program. Some programs adhere to the standard better than others, but in general you can expect to be able to use IFF files in any graphics package.

READ SOME MAGAZINES

You will also want to subscribe to one or two Amiga-specific magazines. The two most popular are *AmigaWorld* and *Amazing Computing*. *AmigaWorld* is a slick, colorful publication, with lots of full color ads and overviews of software. However, it sometimes lacks substance. *Amazing Computing* has color only on the covers, but its articles are generally more substantial, with greater attention to specifics, and far more technical material. Other magazines that may be harder to find, but are also Amiga related include *Amiga Sentry*, *Robo City News*, *Ami Journal*, and several disk based magazines: *Jump*

Disk, *Amigazine*, and *AMnews*. Check them all out and decide for yourself.

JOIN A USER GROUP

You will also want to join a user group. Trust me, it will be the best investment you ever make. Look in the back of this issue and you will find several listed in your area. You may want to attend at least one meeting at more than one group, as each has its own style and flavor.

Every user group has a public domain library. This is a collection of software that either is free or requests a donation if you like and use the program. The quantity, quality, and diversity of public domain software for the Amiga is stunning. A good user group can help you find programs that you can use, and some may even offer tutorial sessions on using software. An evening full of product demonstrations may be fine once in a while, but when I was a new user I wanted help understanding my computer. Call ahead to find out what your local groups offer.

LEARN AMIGADOS

At some point you will also need to learn AmigaDOS, affectionately called AmigaDOG by some. The Amiga's graphical interface to the operating system is called Workbench, and for many users this is the only interface they use. Access to AmigaDOS is through the Command Line Interface (CLI), and it is the only way to gain complete control over your Amiga.

If the prospect seems daunting, a good interim step is to use a DOS shell program. A DOS shell is a program that uses the Workbench environment but offers access to many of the AmigaDOS commands. A good choice for a DOS shell is *DIR UTIL*, a public domain program of which there are many versions. Make sure, however, that you get a DOC file with it that explains how to use it.

CLIMATE and *Zing!* are two commercial programs which are also good choices. Each has its advantages and disadvantages. *CLIMATE* is easier to learn and has most of the functions you would want in a DOS shell. *Zing!* is much more powerful, can be customized by the user, and has more features. *Zing!*, however, is little more difficult to use at first.

If you decide to make the plunge, and work with AmigaDOS directly, you will need to get a good book on its workings. I recommend the Bantam AmigaDOS Manual V1.2. This is the official manual, and it covers the commands in a very complete way. *Compute!* Books publishes the *AmigaDOS Reference Guide*, but it does not cover the 1.2 commands. There are other guides as well, and you may want to look through several to find the style you feel most comfortable with. If you've used other computers (CP/M or MS-DOS) you may find quite a few similarities in the DOS commands. AmigaDOS is not difficult to learn, but, as with all DOS-es, it does require exact syntax.

GET A SECOND DISK DRIVE

Sooner or later you will start looking at other applications software. Before you do, buy a second disk drive (if you haven't already). Working on an Amiga with one disk drive is like trying to type with one hand tied behind your back. It's possible, but not worth the effort. A second drive is a great investment, and is guaranteed to make working on your Amiga a much more pleasant experience.

There's a lot of applications software to choose from. Read the reviews in magazines, talk to other members of user groups, talk to your dealer. Most of the applications software on the market is well written, bug-free, and well worth the price. But there are exceptions. A few well-known dogs still haunt the shelves, mostly early developments by companies that are no longer developing Amiga software. Spreadsheet programs that have very slow recalc speeds or leave you with only a tiny amount of memory for your worksheets have no place on your shelf. Database programs that force you to remember the name of your data file, or which will not create ASCII export files, are not worth buying. Ask around, you'll find out what's worthwhile and what isn't.

EXPAND YOUR MEMORY

One last suggestion. As soon as you can afford it, buy extra memory for your Amiga. Second only to an external disk drive is the need for memory beyond 512K. If all you intend to use your Amiga for is playing games, you can probably forget about a second drive or extra memory, but for any serious applications work you need both. Multitasking in 512K is tricky, and graphics applications are limited if your program and the graphics display must share chip memory. Ask your dealer to recommend a memory expansion device suitable for your particular Amiga in your price range.

ETC.

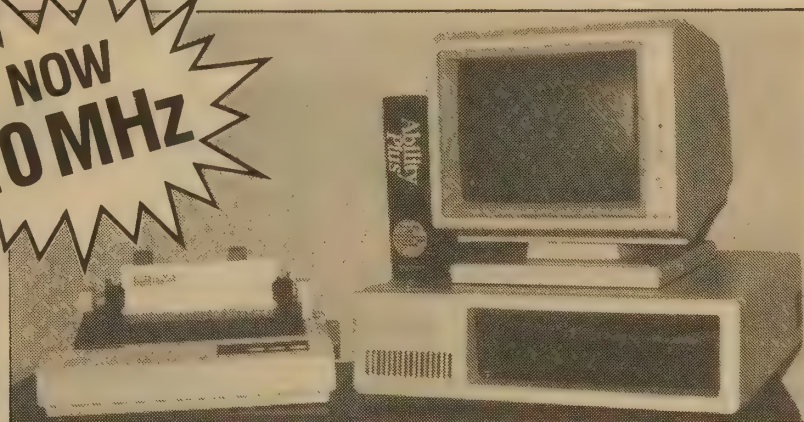
My pick of the month for the most interesting new game is *Testdriver* from Accolade. This is a driving simulation that gives you the feel of an actual test drive on mountain roads. You can select from several sports cars including a Ferrari Testarosa, Lamborghini Countach and Lotus Esprit Turbo. Your point of view is from the driver's seat, including the dash board and stick shift. Your goal is to drive a section of road, point to point under a set time limit. Along the way you encounter slow traffic, falling rocks, and the CHP. Your radar detector may help avoid a speeding ticket. Scores are cumulative, and at the end of each game your score is matched against the best scores of the game's developers. The graphics look good.

That's all for this month. Next month I'll take a look at .info files, the icons that are attached to your data and application files, and I'll also take a look at improving the quality of the video output on the Amiga. □

Copyright ©1987 by Matthew Leeds. All rights reserved. Matthew Leeds has been using and writing about Commodore computers since 1983. He is currently Director of Marketing for Byte by Byte Corporation. He can be reached on the WELL (415/332-6106) as mklslf, or through MicroTimes.

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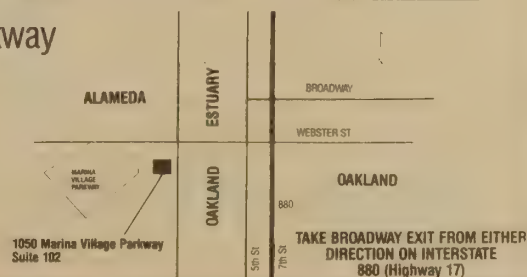
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APPLE II

The IIGS—

Toward The Ultimate Apple II

By Mike Markowitz

Janus was the Roman god of doors, gateways and all beginnings. He was depicted with two faces: one looking backward into the past, the other forward toward the future.

It would be hard to imagine a more perfect symbol for the Apple IIGS. One face looks back across ten glorious years of Apple II computing. We don't know yet where the other face is heading, but if Apple doesn't get its act together pretty soon, there will be egg all over it.

This is a monthly column that will strive to report the growing pains of a problematical newborn. It comes of a noble lineage, and we cannot exactly say that it was an unwanted child, but it is fated, perhaps, to be overshadowed by its brother, Big Mac.

Along the way, we will wander through the world of Apple II in general, so readers with II+, IIe, IIC, or clone systems should also feel welcome on this page. Rumors, hot tips, neat tricks, praise, vituperation and free samples should be directed to the author at 27425 Abanico, Mission Viejo, CA 92691-1101.

The Apple IIGS was released with considerable fanfare in September, 1986. By May of this year, something like 45,000 had been sold. One software publisher I spoke with reported shipping "several thousand" of a leading IIGS title each month. Not exactly meteoric, is it?

Part of the problem is the dearth of software that exploits the power of the new 16-bit operating system, the 4096-color RGB high-resolution video, and the built-in sound synthesizer. Of course, the IIGS owner has access to over 90% of the vast library of 8-bit Apple II software. But if you only wanted to run all that you would have bought a new IIe.

At this writing (June) I'm aware of the following programs written specifically for the IIGS: three word processors, four paint programs (more on the way), two music programs, one assembler, a few Pascal compilers, three games (more on the way—?), a personal database/filer, one spreadsheet, and one business graphics program.

Slim pickings, no? In future columns, we will review most of these products, and new ones as they trickle out of the development cycle. The most obvious urgent needs are a serious, heavy-duty database program, a desktop publishing program (on hold, waiting for Apple to deliver the LaserWriter printer driver), and all that wonderful talking, animated educational software we were promised. On the hardware front, the picture is a little brighter. There are a half-dozen memory cards, a stereo sound card, a video digitizer, a fancy printer interface, and some clever cooling fans. The most urgent need

The IIGS's most urgent software needs are a serious, heavy-duty database program, a desktop publishing program, and all that wonderful talking, animated educational software we are promised. The most urgent hardware need is a cheap hard disk, preferably internal, like on grownup computers.

here is a *cheap* hard disk, preferably internal, like on grownup computers.

Enough reality, I want to tell you about my dream machine.

MY DREAM MACHINE

If Macintosh users can dream of tomorrow's flat Mac, why can't Apple II users dream of a truly portable II? What good is "the power to be your best" if you can't take it with you? If we don't get the machines we want, maybe it's because we aren't aggressive enough in promoting our dream.

I want everything in one box. It should fit within the volume of the present IIC, and it can weigh whatever it needs to weigh ("He ain't heavy, he's my Apple..."). It should take as much rough handling as a Compaq portable—that's quite a lot of shock, as any Compaq owner will tell you. A light metal case (magnesium or titanium) would be preferable to plastic, and a darker color than Apple's "platinum" wouldn't show dirt and smudges as much.

I want a flip-up flat screen, with 640 by 400 pixel resolution. It can be gas plasma, electroluminescent, or back-lit liquid crystal, as long as it's legible under poor lighting conditions, and represents different colors as values of "gray." The screen should be easily replaceable, so the owner can upgrade to a color flat screen when these become available in the 1990s. Meanwhile, I'll need a built-in video connector to use the computer with an Apple analog RGB monitor.

I want a full keyboard, but I can give up the

numeric keypad in exchange for a trackball. A mouse isn't really practical for laptop use—there's no place to roll it. I still want the Apple Desktop Bus connector though, just in case I need to use a graphics tablet, or similar device.

I want space for two 3.5" disk drives, with the option of snapping one out, and snapping in a hard disk. The exact capacity of the hard disk isn't as important as the modular, interchangeable design. Of course I'll also need a smart port for an external 5.25" floppy, to run all that classic software.

Let's see now, I won't need one of the serial ports, because the modem will be built-in. That means a simple phone jack. But I will need an SCSI port, to use the CD ROM devices we'll be seeing Real Soon Now. If I can't have the SCSE port, then I want a slot, similar to the side-mounted slot of the Laser 128. Maybe we'd better play it safe, and demand both.

I want the battery pack built-in, with at least four hours, of juice. I want a smart power supply, that functions as an AC adapter and a battery charger, without a lot of fuss. A simple battery warning indicator is fine, as long as there is some shutdown logic in the system firmware that keeps me from losing data when the batteries run low.

It goes without saying that I want all the functionality of the IIGS, (the 65816 processor, fast clock rate, the Control Panel, Toolbox, etc.) but I would gladly give up the sound synthesizer in exchange for more RAM. After all, I want a computer, not a boom-box. Minimum memory would be 512K, but a full megabyte would allow some room to grow.

Oh yes, I want a little trap door in the bottom of the case for access to at least four ROM sockets, so I can put my favorite software on silicon and reserve the drives for data.

One last item for the wish list—the printer. How about a battery-powered compact, lightweight ink-jet printer, connected to the computer by a wireless infrared data-link? No more fussing with cables. Hewlett-Packard has used this idea on a recent calculator, so it's feasible technology.

The serious-minded reader might object that the dream machine described here looks to be a \$10,000 dollar toy. But remember the great capitalist law of Economics of Scale: anything can be cheap if you make enough of them. This has not been the path Apple has chosen in the past, but if Apple II is truly to live forever, then we will have to see a true portable sooner or later. Hey, you guys in Cupertino, let's make it insanely great.

DISK COPYING ON THE IIGS WITH A RAMDISK

The hefty price tag on Apple's 3.5" drive means that most IIGS users will have to get along with only one of these little wonders for a while. This makes disk copying a nightmare. The disk copy

Mike Markowitz has been reviewing Apple II software for almost four years now. He still hasn't got a modem 'cause he's afraid of phone bills. He loves games and toys. In real life he is a computer engineer for a large aerospace company. Copyright © 1987 by Mike Markowitz. All rights reserved.

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routine on the system disk takes an impossible number of passes to copy an 800K volume, whether you copy by files, or by disk.

There is another way: if you have a megabyte or more on your memory card you can configure an 800K RAM disk as a "dummy" drive. Copy your source disk to the RAM disk, then copy your RAM disk to the target disk. It still takes more than a few minutes, but at least your patience (and the disk drive eject button) won't be worn out by endless disk swapping. This is not a very sophisticated technique, but it isn't documented in any of Apple's manuals, and it might be helpful to beginners to describe the procedure in detail. Remember that this only works with software that is not copy-protected.

To set up the RAM disk, enter the Control Panel by pressing <Ctrl>-<Open-Apple>-<Esc>. Press the down arrow key until "RAM DISK" is highlighted, and then press <Return>. The RAM Disk menu screen will appear. Using the right arrow key, set the maximum and minimum RAM disk size to 800K (it goes up in 32K increments each time you press the right arrow key, so that's 25 key-presses each). Quit the control panel, following the instructions carefully so your changes will be saved. The changes don't take effect until you turn off the computer, or Reset it. Turning it off seems more certain.

Wait at least 30 seconds, and turn the computer back on, with your system disk in the 3.5" drive. Go into the Desktop (The Program Launcher is so useless that most users will probably choose to modify the working copy of their system disk to boot directly into the Desktop.)

You will notice a new disk icon on the desktop labeled "RAM." ProDOS thinks it's another 800K drive. Double-click on it (place the mouse pointer

If you have a megabyte of RAM on your memory card, you can configure an 800K RAM disk as a "dummy" drive.

on the symbol and press the mouse button twice in rapid succession). A window blossoms open, showing you 4K of system housekeeping file, and 796K of beautiful empty space. Now Click on the close box to put the window away.

Let's assume we don't have any formatted blank disks on hand (a veteran user learns from bitter experience to always keep a few formatted disks on hand).

Now we're going to format a blank disk. Pull down the "Special" menu from the bar at the top of the screen, and select "Format A Disk." You can also enter this from the keyboard with <open-apple>-<F>. The drive will spin a bit, as the disk formatter is loaded, and a dialog box will pop up to ask you for a name for the new disk.

Eject the system disk and insert the blank disk you are going to format. If there's anything on the disk, the system will give you a last chance to reconsider. While the disk is being formatted, you have time to fill out a blank label. Don't leave unlabeled disks lying around! It's an invitation to disaster.

Formatting takes about 55 seconds. Eject the

disk when formatting is complete. This is now your "target" disk.

Insert the source disk (that's the disk you want to copy from—it is not copy-protected and we are making this copy for archival purposes only—FBI please take note). The disk icon will pop up on the desktop. Drag the new icon onto the RAM icon (put the mouse cursor on it, hold down the button, and without releasing the button, move the mouse until one icon is superimposed on the other. When the icon changes color, release the button). You have just commanded the system to copy everything on the disk into RAM. A dialog box will pop up, to give you a running countdown of how many files remain to be copied. When all the files have been copied, eject the source disk.

It's finally time to make the copy. Insert your formatted target disk. Its icon will appear on the desktop, labeled with whatever name you gave it when you formatted the disk. Drag the RAM disk icon onto the target disk and release the mouse button. You will see the same dialog box, giving you a running account of the progression of the copying process. When the box disappears, your copy is complete.

Using a RAM disk makes the disk copy process on a one-drive system less tedious. Apple IIGS owners can live without a second 3.5" drive, but they probably cannot live without a memory card. Since the presence of the 800K RAM disk may prevent memory-hungry IIGS software from loading properly, you should create it only when you need it, then delete it by going back to the control panel. Eventually, someone will probably write a utility program to automate this process, but until then we have to make doing it the hard way as easy as possible. □

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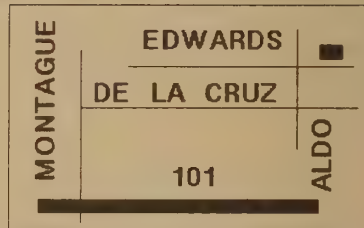
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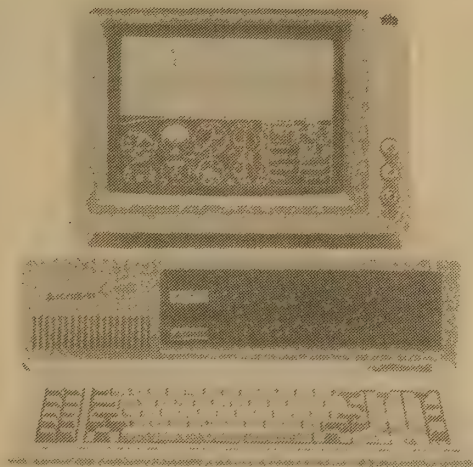
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Crunch Your Archival Records

By Robert D. Athey Jr.

The storage of old files on disk is certainly an improvement over keeping paper records. (However, it hasn't stopped the dozen file cabinets I've collected over 20+ years in the chemistry business from cluttering the house with paper. . .) The last few years, all my writing has been kept on magnetic media. Even that used a lot of disks, but using library files (from *NULU*) and squeezed files (by *NEWSWEEP*) has cut the number of archival disks by about 30%. I recently found a new collection of programs on a CP/M remote bulletin board that will cut the number of disks even further.

One of the complaints that fuels reports of the death of CP/M is the persistent gripe that no new public domain programs are coming out. That just isn't so. I wrote last year about the new games being put up by Dan Griffith. Now there's a new set of programs, again from *NULU*, in a library form called *CRUNCH12.LBR*, for archiving smaller files from big ones. (I have also heard of a program called *UNARC* for taking the ARC files from an MS-DOS remote bulletin board and expanding them to usable form.) So once again the life of CP/M is extended by the continued contributions of public domain programmers and hackers of the old style.

The *CRUNCH12.LBR* is opened up with *NULU*; the contents are three programs and a *.DOC file.

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That just isn't so.**

The three programs are: *CRUNCH12.OBJ*, *TYPELZ.OBJ* and *UNCR.OBJ*. These object files (files having *.OBJ as the extent) are simply renamed to a new extent of *.COM, so they can be run as operating programs. Each of the three programs has a distinct and separate function, but all three should be of interest.

The program is used to convert a file to an archival form. In this form it takes up about 50% less space than the original file. You call up the program simply by typing in *CRUNCH12 D:FILENAME.EXT D:*, where the *D:FILENAME.*

EXT designates the file you want to be made smaller, and the *D:* alone tells where the crunched file is to be stored. The *CRUNCH* program will support wild cards, so that you could set up the command to treat all *.DOC files in sequence.

While the *CRUNCH* program is operating, it gives a screen readout showing the file it has started on, along with a running count of the number of records treated, the number of resulting records, and a percentage showing how much space was saved. When the file is finished, the program shows the new file's size in KB. The program usually reduces the file size by about 50%. According to the *.DOC file, the actual amount of space saved will vary according to the type of file. Text files, number data files and program listings may all act differently. With the ASCII text or number files I usually work with, I save 50% fairly regularly.

One of my tests was to compare the *NEWSWEEP* squeeze and the *CRUNCH12* crunch on the 41K *CRUNCH12.DOC* file. *NEWSWEEP* gave a 24K squeezed file, while *CRUNCH12* yielded a 20K archive. The program will catch any cases wherein the resultant file is larger than the original file, with a query as to whether you want the crunched file saved. I was particularly impressed with how fast this program operates.

The archival files from this utility are uniquely named, to show that they have been treated with this program. The *CRUNCH12.DOC* file showed up as *CRUNCH12.DZC* after treatment. The file-name extent has a "Z" substituted as the middle character. If the file you are treating has no extent, *CRUNCH12* will give it an *.ZZZ extent.

Reading a *CRUNCHED* file is done by using the *TYPELZ.COM* program. Here, you simply type in *TYPELZ D:FILENAME.EZT* and out comes the text on the screen (and to the printer, if you toggled it from your keyboard). The *TYPELZ* program will even fish a *CRUNCHED* file from out of a library by using the command in the form of *TYPELZ D:LIBRNAME.LBR FILENAME.-EZT*, where the * is the library containing the *FILENAME.EZT* file you want to see. This is a temporary memory conversion, with no permanent record of the un*CRUNCHED* file and no change done on the *CRUNCHED* *FILENAME.EZT* (or to the library containing it, either). You'll note that the extent specified for the file to be read by *TYPELZ* has a "Z" as the middle character.

To complete the package, there is an *UNCRUNCH* program. There will be a time when you want to go back to an archived file to make a change. The operation of the *UNCRUNCH* program is again very simple. Simply type in *UNCR D:FILENAME.EZT D:* to get the *FILENAME.EXT* file sent to the second D: disk drive. The *UNCRUNCH* program will also support wildcards, and will *UNCRUNCH* all *CRUNCHED* files on a disk if you use *.*. (You'd better be sure there's

room on the destination disk for the uncompressed files!) You'll see the display in progress on what records are being processed, and the percent of expansion experienced, the reverse of the *CRUNCH12* operational display.

This program was written by Steven Greenberg (201/670-8724) and the *.DOC file is dated 1 May 1986. I hear there are newer versions, so call your own local RBB or user group disk library to see if it is there. The existence of a newer version means that Greenberg is continuing the upgrade process, and he is to be commended.

GOOD BUYS FOR USERS

Real problems stem from the belief that a three-prong plug is really grounded. In the capacity of

**Crunch is used to convert
a file to an archival form.
In this form it takes up
about 50% less space than
the original file.**

chief safety officer for a major company's research center, I once had to do monthly OSHA inspections around the labs, pilot plants, shops and garages. We had a gadget to put into the three prong receptacles to see if they were wired correctly, and found about 10% were not.

If you travel with your portable (or luggage) computer, you should be concerned about that hotel room or airport bar where you plug in. I bought myself such a tester early in 1983 (at almost \$30) from a hardware store. A recent Markson catalog showed a different style that tests 115V AC, single phase three wire conventional and GFI outlets for proper wiring for \$19.95! Markson will accept orders when you call (800) 528-5114.

The American Ink Products people are among my favorites, since their re-inked ribbons are real money savers. They've moved to a new facility in Oakland from their SoMa SF location. Their new address is American Ink Products Company, 630 E. 10th St., Oakland, CA 94606, 415/268-0825.

The discussion of the ON! computer last month didn't tell where it could be bought or how much it cost. The new Central Computer Products catalog (I've talked about its CP/M software offerings) lists the ON! at less than \$2500, which is a phenomenal buy considering its 2MB of RAM and circuit protection. Central Computer Products is located at 330 Central Ave., Fillmore, CA 93015, (800) 624-5628 in CA, and (800) 533-8049 for the rest of the US. They're good people to deal with. □

Bob Athey has over 20 years of experience working on computers and runs his own company on chemical consulting and contact research. He can be reached through MicroTimes or at (415) 526-3541. Copyright © 1987 by Robert D. Athey Jr. All rights reserved.

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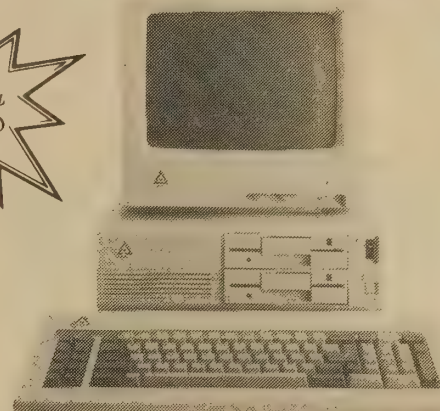
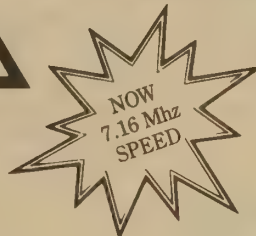
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Online Grocery Store

By Brock N. Meeks

TGIF. The board room battles of the week are over; now you're about to do battle on the interstate, or suffer the anguish of an oxymoronic "rapid transit" system. Then it starts to rain.

Waiting at home is your "to do" list. Item one reads: Pick up groceries for dinner party. Right. And just when you'd rather plop down with a cold one and stack your feet on the coffee table. The typical grocery store "experience" beckons.

The ritual of buying food is one of those inescapable "evils" we all endure (right along with going to work, paying taxes, and the popularity of Ollie North). And so you grab your car keys, mumbling to yourself, "In the age of high tech why can't they..."

Meanwhile, halfway across the nation, Myrl Carpenter, an 80-year-old widow, is doing her weekly shopping from a home computer terminal.

WHEN IT RAINS IN LENEXA

In a scenario that sounds more suited to the Silicon Valley or around Boston's High Tech Route 128, Myrl Carpenter is a player on the cutting edge of a technology rooted in the heart of Middle America.

It is raining in Lenexa, Kansas, the home of Myrl Carpenter. As the drops hit her window, they provide a syncopated downbeat to the rhythm she is tapping out on her keyboard—she is logging into the Guaranteed Foods' Menutronics System 2000 home shopping service. A clap of thunder wakes the cat sitting on Ms. Carpenter's lap. As she consoles her cat the Menutronics software automatically logs her onto the system.

Carpenter begins by selecting an item from the menu-based system that lets her review the order she placed last week. A few changes are needed. She decides to try that new cat food she saw advertised last week on TV. Tapping in the brand name she sees that it is, indeed, listed in Menutronic's database of some 3,500 items. She orders the trash bags she's run out of, and deletes the macaroni and cheese that is still hanging around from last week's purchase. Everything else remains the same and she logs off asking for her order to be delivered in the morning, sometime between 8 and 9 am. Her order will be delivered to her door, the delivery person will even stock her fridge, if she asks. No tip is required. (Carpenter, however, bakes a fresh batch of oatmeal raisin cookies.)

THE BEST

Guaranteed Foods, Inc., parent company of the Menutronics system, began as a shop-at-home mail-order service in 1958. Guaranteed Foods has used computers extensively for management information and inventory control. The company's IBM System 38 was installed in 1981. Its online interactive database allows access to every aspect of products, pricing, profits, and

order tracking. The Menutronics System 2000 seemed a logical outgrowth of the company's established business, according to Tom Williams, president of Guaranteed Foods. "Frankly, no one else has the computer expertise to pull this off," he says. Menutronics draws on the success of its home delivery service to over 20,000 member families.

"The possibility of shopping for merchandise from home through the use of computers has been discussed and speculated about for years," says Williams, "Because grocery shopping represents a large cumulative annual purchase for most people and because of the time necessary for this repetitive task, the application of electronic grocery shopping seemed like a natural progression for our business."

Menutronics offers the same products as its parent. Products from aspirin to Ziploc bags are available (including perishable foods), and in the most popular packaging and sizes. Prices are comparable to "quality retail grocery stores." The parent company has people phone in their orders. The next step "was to bypass the order taker," says Williams. And so Menutronics was born.

THE SYSTEM

The system is still in the testing phase, with about 500 to 750 shoppers expected to sign up for the service when the system goes fully public, according to Williams. An introductory price is set at \$50 for one time membership and \$12.50 a month for unlimited access to the system.

If those wanting to shop from home don't own a PC, they can lease an IBM terminal from Guaranteed Foods for \$25 a month, which includes the monthly service charge. Or, shoppers can buy the terminal outright for \$495, which includes two full years of unlimited system access, plus an equivalent of \$200 in services on other databases, Williams said. In addition to the shopping service, Williams says there are plans to offer Dow Jones stock market data, CompuServe shopping services and "listings for Dickinson Theaters," a chain of local movie theaters.

The system allows comparison shopping, too. For example, if you're interested in knowing more about Cheerios you would simply tap in "cheerios" and press the INFO key. Your screen is filled (probably more than you ever wanted to know) with text describing the product: "Rounded toasted oat cereal." In addition, there is information on serving size, servings per box, calories per serving, nutritional data and ingredients—everything that is printed on the label. Are you consumer advocates taking notes?

Suppose you want to peruse the trendy seltzer offerings. You type in the word "seltzer" and the screen shows you the brands, sizes, and prices of all the available seltzers (but it won't tell you that Zeltzer Seltzer is the one worth buying). Further, you don't even have to spell correctly (a plus in this writer's book). Type in "Heintz" and the system will know that you're interested in

seeing a list of all available Heinz products.

When your order is complete, you tell the computer when it should be delivered and how it will be paid for. The computer acknowledges the entry and asks that you verify the order with a purchase authorization code similar to the personal identification number you punch in for an automatic teller transaction.

WHO NEEDS IT?

In doing the market research for Menutronics, Williams said he came up with six things customers want from a computerized shopping service. According to Williams these are, "simplicity, wide selection, convenience, personal service, versatility and affordability."

Williams admits that Guaranteed Foods has a certain type of customer in mind: upper-middle class singles or two-career couples, usually college-educated apartment dwellers or condo owners, probably without children—in a word, Yuppies. Another look at that description could fit the demographics of 90 percent of those using any computerized service, from CompuServe to The Source. But Williams is not as nearsighted as he might appear.

Williams made sure the Menutronics was programmed to accept coupons and food stamps. "But no one has taken us up on the food stamps option," he says. Williams also says that there is a possibility of installing public terminals as a way of further increasing access to the system.

AND SO IT GOES

You haven't heard about Menutronics before because they aren't advertising. The plan is to perfect the system within the parent company's local radius and then start to sell franchises throughout the country.

Even as the company is proceeding with caution, Williams claims the future is bright. "We've generated a lot of word of mouth interest. We have been approached by people in Canada, Australia, Japan, the United Kingdom and places in the U.S.," he said. "What we see on the horizon is the possibility of licensing our system and our concept to other entities."

"Computerized shopping will never replace actually going to the supermarket, but it will certainly become an important alternative," Williams says.

For now, the midwestern city of Lenexa, Kansas, holds a lock on the computerized grocery shopping market. It's a concept that carries a practical and "real world" application for computers. You know computers, those machines that are supposed to save us so much time and make our lives easier.

And Menutronics marches on, determined to be a practical alternative to the "supermarket experience." You know Lenexa. This is where, after all, Almon Stowger invented another practical bypass device—a device to place calls without an operator—the dial telephone.

And so it goes. □

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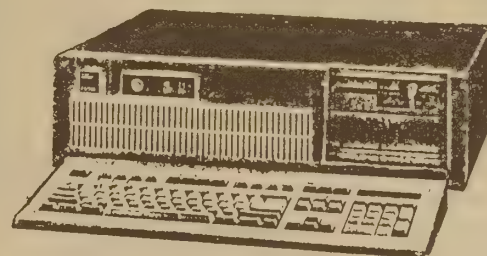
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APPLEFEST '87

Conferences, Exhibits and Fun

AppleFest '87 could very well never have happened. After all, there hadn't been an AppleFest since 1985. But through the efforts of Roy Einreinhofer and Andy Calkins of Cambridge Marketing and Bill Cleary of Cleary Communications, AppleFest has re-emerged, to the delight of millions of Apple II users.

Almost as amazing as the fact that AppleFest is happening at all is the fact that it happened almost by accident. According to Roy Einreinhofer, Cambridge first became involved with Apple through running a program called the Apple Computer Club International. Out of this came the desire to put together an exposition centering around ACCI's annual programming competition.

From this point on the project took on a life of its own. It soon became apparent that a full Apple II show was called for. Cambridge went to Apple's consumer marketing people; Apple, in turn, gave the project the stamp of approval by licensing the AppleFest name to Cambridge.

Since then the exhibitor list has mushroomed to over 112 companies, and the speaker list includes, according to Einreinhofer, "practically everyone who has done anything in the Apple II market in the past five years." AppleFest '87 has also grown to become a major part of Apple's ten-year anniversary celebration, along with kicking off Apple's efforts in support of Computer Learning Month.

While Cambridge was planning on AppleFest being a successful regional show with an attendance around 15-18,000, it has recently become apparent that the event is taking on nationwide significance. According to Einreinhofer, pre-registration indicates that large numbers of people are coming from as far away as Texas, New York, New Jersey, Illinois and Florida.

Andy Calkins is surprised by the response. "We set aside a few rooms for user groups and other dedicated Apple groups, and the response has been great. It looks like those rooms will be filled up all three days of the show. Some groups that we thought might send their executive directors are suddenly saying that they're sending fifty people. People like the Arizona Apple II Club and the Big Red Apple group from Nebraska are all signing up for rooms—and they want the ones with 50 chairs in them. And then there are the big time groups like APTA and the *AppleWorks* users group."

If you think AppleFest sounds like it's shaping up to be one big party, you're right. According to Calkins, "Many other shows seem to be getting much more specific or much more business oriented

San Francisco Civic Auditorium
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these days. Except for the occasional West Coast Computer Faire you just don't see these big old-time jamborees of computer good times anymore. AppleFest is specifically geared to the home and education marketplace."

Not that the business person is being left out. Much of the show is devoted to the people who run businesses out of their homes. An extensive seminar on *AppleWorks* is expected to draw many business people.

Once on the floor, the AppleFest-goer is in for at least a few surprises, states Einreinhofer: "At this point we have over 29 companies announcing new products just before or at AppleFest. Companies like Sierra Online, Pinpoint, Brøderbund, Epyx, Corvus, Blue Lion—the list goes on and on." This includes a large number of new hardware and software products for the Apple IIGS. According to Calkins, "Everybody will be on the lookout for what new software there is, and from what we can tell right now there will be a lot. This might be the biggest collection of GS-specific software that has been put together."

AppleFest realizes fully the importance of education in the Apple story, and has lined up a large number of seminars and activities that deal with education—not only today, but in the classroom of the future. Apple will be bringing in groups of students from three Apple Classroom Of Tomorrow sites. The students, from Memphis, Tennessee, Blue Earth, Minnesota, and Cupertino, California, will participate in actual classroom sessions that fest-goers can observe.

There is also a whole strand in the conference schedule, called the educational computer showcase, designed to demonstrate the latest state-of-the-art applications of technology in the classroom.

Sunday's keynote speaker Alan Kay will talk about his educational project in Los Angeles designed to find out how kids learn and how technology can make learning easier and faster. Kay will be sharing the podium with Mark Engel from Apple's Classroom Of Tomorrow program. Keynote speakers on Friday and Saturday are Steve Wozniak and Apple's Del Yocam.

The other conference strands — applications,

hardware, software and general interest—are also packed with interesting sessions and speakers. Those that don't want to pay the \$50 fee to get into the conferences shouldn't feel left out, however. AppleFest has a number of continuously running spotlights and showcases that give fest-goers the chance to see and participate in demonstrations away from the chaos of the show floor.

Some companies, according to Calkins, are preparing some major productions for the show. "Companies like Activision, for instance, seem like they are bringing their entire complement of people to the show. They are going to be running spotlights on one floor and having their exhibit on the main floor below—and over on the other end they're going to have their music studio set up. And somewhere else they're going to have a basketball tournament!"

The regular admission without the conferences is \$15 for the whole three-day event. Einreinhofer says that Cambridge decided to charge a standard one-day show fee and then let people back on the other two days for free.

An additional surprise will be awaiting all fest-goers as well, according to Einreinhofer: "We have an almost 99% assurance at this point that the full Apple Computer Museum will be at the show. And that's one of the first times that it will appear at any kind of show."

Will there be more AppleFests in the future? Definitely yes, according to the pair. There are already two AppleFests planned for 1988. "The Apple II market," says Einreinhofer, "was almost cut adrift in people's eyes. Now all of a sudden the importance of that market is being revived. There are somewhere in the area of three million Apple IIs sitting out there now. They expect by the end of 1988 that that number will be in the area of four million. So there's a lot of folks out there using Apple IIs and they haven't really had a place to go. They haven't had a place to sit down and gather information, other than some of the smaller regional shows, and those were primarily education oriented. We're picking up the pieces of a giant market that has been kind of ignored for awhile."

Calkin also enjoys the surge of support for the Apple II in general and AppleFest in particular: "Watching the momentum build, and knowing that there are all of these other people out there drumming up support for the show, is a great feeling. We feel like the white knight. Everyone we talked to, even the conference speakers, said it's been a long time since there was a show like this. We got the feeling that everyone in the industry was pulling for us. It's nice to be on the side of the angels."

—Robert Beauchamp

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And The II Goes Ever Onward...

Apple On The Apple II



PHOTO: MARY EISENHART

Apple's Lloyd Mahaffey: "It's very important to us as a corporation that we protect the early investment and move our installed base along with the evolution of our technology."

So Tom, John Dvorak says the Apple II is a dying machine. What do you have to say about that?"

Tom Virden is Apple's Consumer Products Marketing Manager. You may remember him hovering proudly over a IIGS in our October cover last year. He retorts, "Gee, hasn't John been saying that for four or five years now?"

More seriously, he adds, "The Apple II business alone makes us a Fortune 500 company, and it's growing."

As Apple launched the assault of Macintosh upon the unsuspecting corporate world, the venerable Apple II seemed to fall from prominence. Last year's launch of the 16-bit IIGS, a machine with vastly improved sound and graphics capabilities that maintained compatibility with the software written for the 8-bit IIE and IIC, promised new life for the older line, but supply problems hampered sales until early this year.

Today, however, the company's predicting a future for the II line that's bright enough to keep its

partisans scurrying for their Ray-Bans. Apple's launched a media blitz in promotion of the II line, complete with traveling road show and heavy involvement in October's Computer Learning Month campaign. In addition, new software to tap the power of the GS is becoming plentiful, and products continue to pour in for the 8-bit line as well.

Apple continues to position the II chiefly as a machine for the K-12 school and the home/consumer markets. Says Virden, "If you're buying for education first and productivity second, you should buy an Apple II. If you're buying for productivity first and education second, you should buy a Macintosh."

Even as IBM, Tandy and other vendors begin to aggressively pursue customers in this arena, Apple reports growing sales.

Lloyd Mahaffey, Apple's Director of Education Market Development, attributes this marketing edge to several factors—the undeniable fact that the II was there first, the wealth of II software specifically designed for the educational market (as contrasted to "educational" stripped-down business packages) and the extensive support Apple offers the schools, from appealing discounts to curriculum guides to

existing software. But most importantly, he says, "Schools don't depreciate computers like a business does, so the life cycle of a computer in a school is much longer." Consequently, the company's commitment to maintaining compatibility with the installed base of existing machines assumes huge importance.

In the consumer market, where the IIGS is the bestselling II, the compatibility with school computers continues to be Apple's most heavily-stressed selling point, though new productivity packages also take advantage of the machine's capabilities and new recreational software reinforces the point that the Apple II is also just plain fun.

What's in store for this product line? Says Mahaffey, "When you look at some of the GS's more advanced human interface capabilities, you can see that we're driving the line heavily towards a better human interface, enhancing the mouse technology, more memory, things like this. We're pushing towards more advanced graphics and sound in the II line, and we are moving towards a Macintosh-like human interface."

"It's very important to us as a corporation that we protect the early investment and move our installed base along with the evolution of our technology. If you ask me how long the Apple II's going to be around, I'd say it'll be around quite a while—it's going to keep evolving over time."

"Our commitment is to keep evolving this line from a technology standpoint and begin to look at things like interactive video, multimedia capability, a whole variety of advanced interactive applications on the II line. Things like CD-ROM—we're going to make sure that we can offer that." Asked if this includes applications similar to those expected from Bill Atkinson's recently-announced *HyperCard* for the Mac—hypertext educational applications—he responds unequivocally, "Yes."

As Apple II devotees gather from around the country for Applefest, Apple expresses continuing commitment to the line and its users. Says Virden: "There's a lot of engineering work going on in the Apple II right now. There's a lot of new technologies that can really enhance what the Apple II can provide. We're making sure we continue to leverage the strength we've built and build on the things that people are asking for, in terms of increasing graphics, sound, multimedia. There's a *lot* of people working on the Apple II in this company."

—Mary Eisenhart



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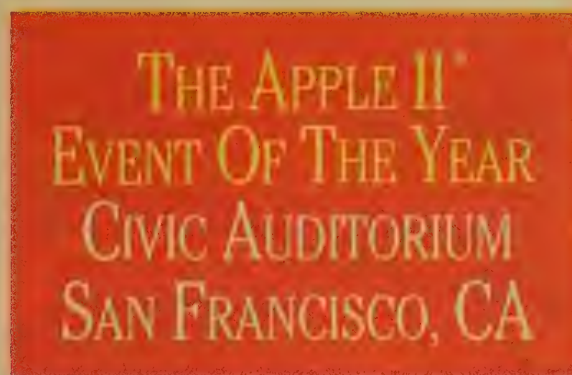
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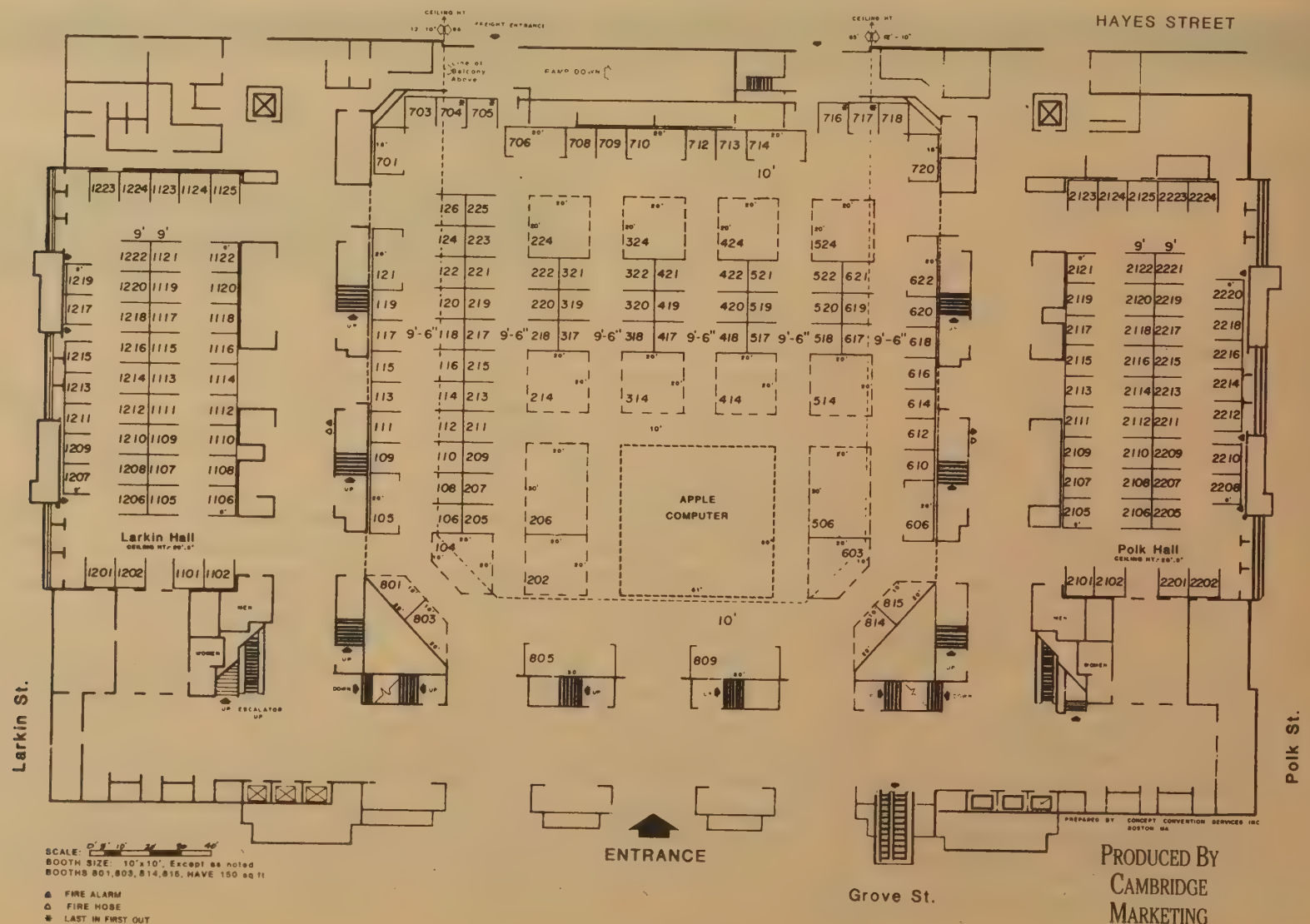
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APPLEFEST CONFERENCE SCHEDULE

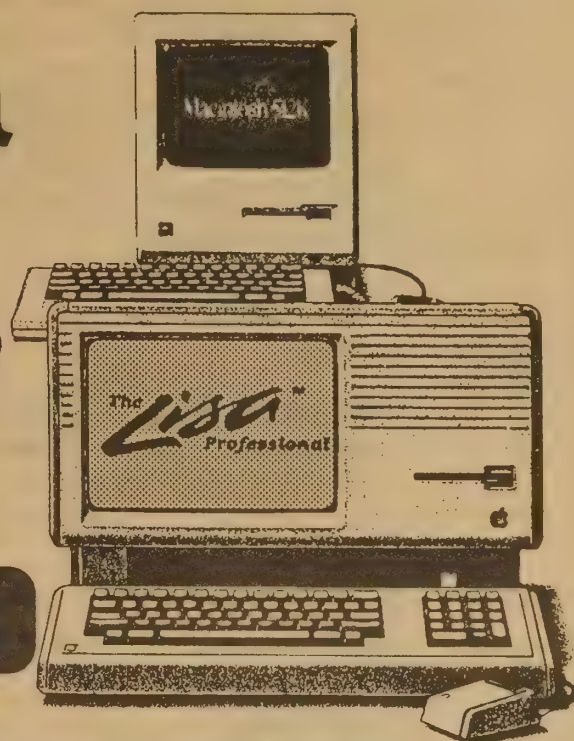
FRIDAY, SEPTEMBER 18

Keynote: Del Yocam, 10:00					
Subj.	11:00-11:50	12:00-12:50	1:00-1:50	2:00-2:50	3:00-3:50
Basic Applications	A Baker's Dozen Great Benefits of a Computer in the Home (Family Computing)	Which Apple Is for You? (InCider plus Apple)	Educational Computing in the Home: How to Make Your Apple Live Up to its Potential (Goodson)	Let's Get Graphic: New Capabilities of the Apple II Family (Callery/Schwartz)	BASIC Boogie: Composing and Performing Music on the Apple IIGS (Panel)
	Stocks, Checks and Taxes: Home Finances Made Easy (Howard)	Home and School Publishing With the Apple II Computers (Davis)	Getting the Most Out of AppleWorks (Workshop - Luerhmann)	50 Ways to Make Money With Your Apple (A+)	Add-Ons and Rip-Offs: How to Determine What Peripherals You Really Need (Statt/Milks)
General Interest	Lifelines: A Guide to Support Services for Apple Computer Owners (Panel)	Having Fun (and Staying Sane) Telecommunicating on the Apple II Computers (Panel)	Creativity Software: How to be an Artistic Genius, More or Less Instantly (Panel)	Programming on the IIGs (Panel)	Finding Great Software Without Spending a Lot of Time (or Money) (Nibble)
Educational Computer Showcase	Apple's Classroom of Tomorrow: A Glimpse into the Future (Panel)	Presenting: Top Winners of the Apple Computer Clubs International's 1987 Merit Competition (Chang)	The Miracle Worker: Apple and the Special Needs Student Today (Panel)	Five Favorite Educational Software Programs, By Five Experts in the Field (Panel)	Molecules 'R' Us: An Interactive Introduction to Science Software on the Apple II Computers (Fisher)
Running Continuously ALL THREE DAYS (Open to all Expo Attendees)	Hardware Spotlights	-----	-----	-----	-----
	Software Spotlights	-----	-----	-----	-----
	The Hands-On Apple Computer Workshop	-----	-----	-----	-----
	The Apple Classroom of Tomorrow Simulation Room	-----	-----	-----	-----
	Users Group Meetings	-----	-----	-----	-----

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SATURDAY, SEPTEMBER 19

Keynote: Steve Wozniak, 10:00					
Subj.	11:00-11:50	12:00-12:50	1:00-1:50	2:00-2:50	3:00-3:50
Basic Applications	A Baker's Dozen Great Benefits of a Computer in the Home (Family Computing)	Which Apple Is for You? (InCider plus Apple)	Educational Computing in the Home: How to Make Your Apple Live Up to its Potential (Goodson)	Let's Get Graphic: New Capabilities of the Apple II Family (Callery/Schwartz)	BASIC Boogie: Composing and Performing Music on the Apple II GS (Panel)
	Stocks, Checks and Taxes: Home Finances Made Easy (Howard)	Home and School Publishing With the Apple II Computers (Davis)	Getting the Most Out of AppleWorks (Workshop - Luerhmann)	50 Ways to Make Money With Your Apple (A+)	Add-Ons and Rip-Offs: How to Determine What Peripherals You Really Need (Statt/Milks)
General Interest	Higher Tech: CD-ROM, Voice Synthesis, Optical Technology, and Other Marvels To Come (Panel)	Programming on the IIGS (Panel)	If You Really Think You're a Sports Fan... You'd Just Better Come to This Session (Panel)	Experts Predict: The Next Generation of IIGS Computer Games (Panel)	Having Fun (and Staying Sane) Telecommunicating on the Apple II Computers (Panel)
Educational Computer Showcase	Apple's Classroom of Tomorrow: A Glimpse into the Future (Panel)	Preview of Coming Attractions: Computer Learning Month (Panel)	Models of Creative Computer Use in Schools: Results of a National Search (Landsman)	How Computer Clubs Make Learning Fun (Panel)	The Miracle Worker: Apple and the Special Needs Student Today (Panel)

SUNDAY, SEPTEMBER 20

Subj.	11:00-11:50	12:00-12:50	1:00-1:50	2:00-2:50	3:00-3:50
Basic Applications	A Baker's Dozen Great Benefits of a Computer in the Home (Family Computing)	Which Apple Is for You? (InCider plus Apple)	Educational Computing in the Home: How to Make Your Apple Live Up to its Potential (Goodson)	Let's Get Graphic: New Capabilities of the Apple II Family (Callery/Schwartz)	BASIC Boogie: Composing and Performing Music on the Apple IIGS (Panel)
	Stocks, Checks and Taxes: Home Finances Made Easy (Howard)	Home and School Publishing With the Apple II Computers (Davis)	Getting the Most Out of AppleWorks (Workshop - Luerhmann)	50 Ways to Make Money With Your Apple (A+)	Add-Ons and Rip-Offs: How to Determine What Peripherals You Really Need (Statt/Milks)
General Interest	Almost an Hour With Five Entertainment Software Superstars (Panel)	Lifelines: A Guide to Support Services for Apple Computer Owners (Panel)	Higher Tech: CD-ROM, Voice Synthesis, Optical Technology, and Other Marvels To Come (Panel)	How to Write and Publish a Computer Book, Program or Article and Live to Tell the Tale (Panel)	Ten Years Later: An Anecdotal, Illustrated History of Apple II Software (Szetela)
Educational Computer Showcase	Apple's Classroom of Tomorrow: A Glimpse into the Future (Panel)	Five Favorite Educational Software Programs, By Five Experts in the Field (Panel)	Recent Advances in Local Area Networks (Panel)	Productivity Software for Educational Use: The Computer as a Tool (Panel)	Artificial Intelligence on the Apple II Is Here (Koetke)

Computerizing Your Business

... a buyers' guide for businesses and professionals



■ Analyze Your Needs

When Julian Systems is approached to develop a business computer system, our first question is, "What do you need your system to do?" You can prepare in advance for this all-important question by examining the way that your business works.

Ask yourself a few questions:

- What are the major tasks that keep your business running?
- Of these, which would benefit from automation?
- How many individuals are involved in these tasks?
- What information do they need to share?
- What does each need to do individually?
- Do you need telecommunications?
- What computer systems are your employees familiar with or attracted to?

The answers to questions like these will provide important clues in determining the right combination of hardware and software, to maximize the effectiveness of your investment.

■ Select Your Supplier Carefully

In most cases, the key to successful computerization lies not in the hardware, but in the supplier.

To get the most out of your computer system, you need expert consultation from the very beginning. Your supplier should be able — and willing — to spend the time necessary to customize the system for your business.

An effective and knowledgeable consultant can help you select the best software, steering you clear of products with functional limitations and "bugs" while assuring full compatibility. And he or she should either know your business, or be willing to take the time to learn.

Look for a supplier who can be the single source for all the components of your system. This will not only simplify the ordering and installation process. It will also make it easier for you to build a relationship with your supplier. And you'll have only one person to call when you need help.

Most importantly, look at your potential supplier's track record. Request two or more references, and call them. Make certain that the supplier has dealt fairly in the past, and has supported his products effectively. Every business computer system — no matter how simple — will require support. And every business client deserves it.

■ Consider Leasing

Cashflow management is one of the primary cornerstones of a successful business. And one of the best ways of making capital expenditures while keeping cashflow in line is leasing.

A well-structured lease-to-own plan will allow you to:

- Meet budget goals
- Conserve capital and credit
- Obtain a manageable, fixed monthly payment
- Avoid restrictive covenants
- Generate a return on freed capital

For example, consider Julian Business Credit, a leasing plan that Julian Systems has developed in response to the needs of our business clients. Under the Julian Business Credit plan, our clients receive:

- 24-hour approval
- Automatic approval for 125% of the amount financed, to allow for system upgrades
- Up to three (3) payments deferred with no penalty (financing charges may apply, however)
- One year of guaranteed carry-in service

And Julian now offers business and professional clients **cash rebates** of up to \$2,000 on lease purchases. That means no money down in most cases. In the case of larger systems, the rebate covers up to three payments.

It doesn't take much imagination to see how a leasing plan like this can allow you to make capital purchases while keeping your cashflow picture bright.

■ Service Contracts

Business computer systems see daily, full-time use. And if your system should fail, it could seriously hamper your ability to do business. So, no matter what computer system you select — or how reliable it may be — be certain that your supplier can offer you a service plan that fulfills your needs.

After all, most computer industry warranties end after the first 90 days. From there on, you're on your own. And computer repairs can be expensive. The cost of a service contract, by comparison, can be pennies.

At Julian Systems, we've developed a unique service plan for our business clients, called **JulianCare™**. It's reasonably priced, and it offers coverage that no other computer supplier can equal.

JulianCare is available in three levels of coverage. The most basic plan, **Carry In Service**, provides for repair and/or replacement of the covered equipment, including labor — but the customer must bring the machine to us. This plan is often sufficient for sole proprietorships.

The next level, **On Site Service**, provides for a technician to attempt repair at the client's premises. Since many apparent computer malfunctions are actually software problems — or simple things like dirty disk drive heads and faulty cables — they can be taken care of in a single visit, with minimal down time.

The highest level of **JulianCare** couples On Site Service with our **Replacement Option**, providing for temporary replacement of equipment while it is being repaired. Since no business can easily afford to be crippled for days by a computer failure, most of our clients choose the full **JulianCare** coverage plan.

When shopping for service contracts, compare carefully and be sure that you can get this level of support. Only then will you be assured of smooth, trouble-free computerization of your business operations.

■ About Julian Systems

Julian Systems is an Apple® VAR (Value Added Reseller) specializing in the Macintosh™ computer. Our staff is composed of programmers, engineers, graphic designers and tele-marketing professionals. All are expert in computer applications within their respective fields.

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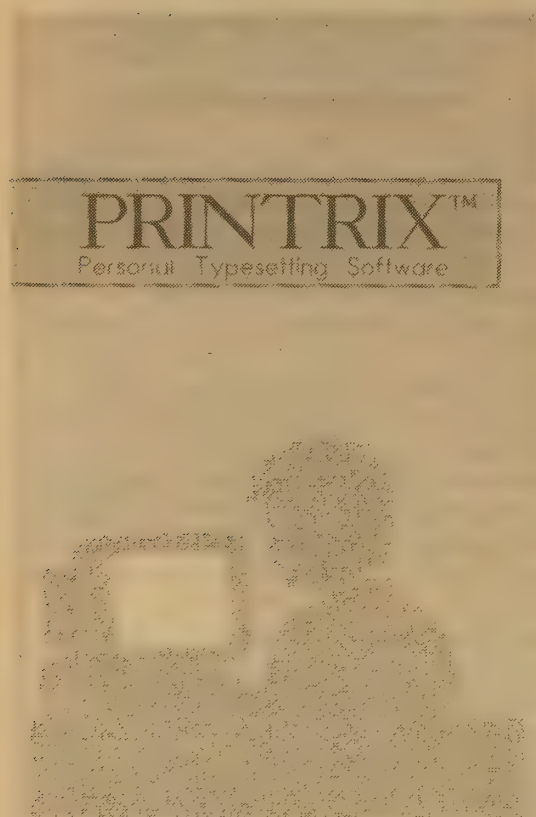
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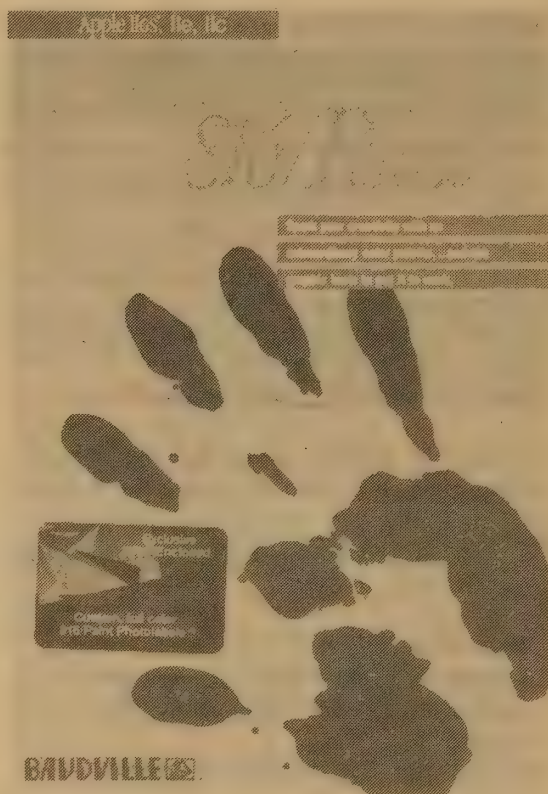
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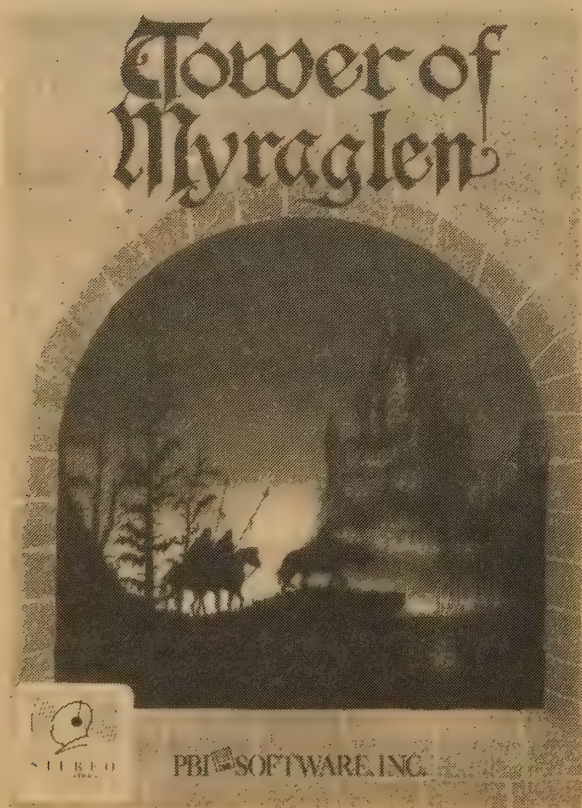
▲ **Printrix** from **Data Transformers** is the result of the extensive polling of Apple II user groups as to what they wanted in a font printing package. The result is a product that allows users to employ their own word processors, print columns and graphics, and access a large selection of fonts. *Printrix* employs an innovative technique that allows the Apple ImageWriter and the Epson FX series of printers to gain a resolution equivalent to that of 24 pin printers.



▲ **816/Paint** from **Baudville** is unlike any other Apple II program in that it works with all Apple high resolution graphics modes, including Hi-Res, Double Hi-Res and the 4096 color Super Hi-Res mode on the Apple IIGS. Along with providing a full range of color it offers the ability to scale, rotate, stretch or paint with any object on the screen.

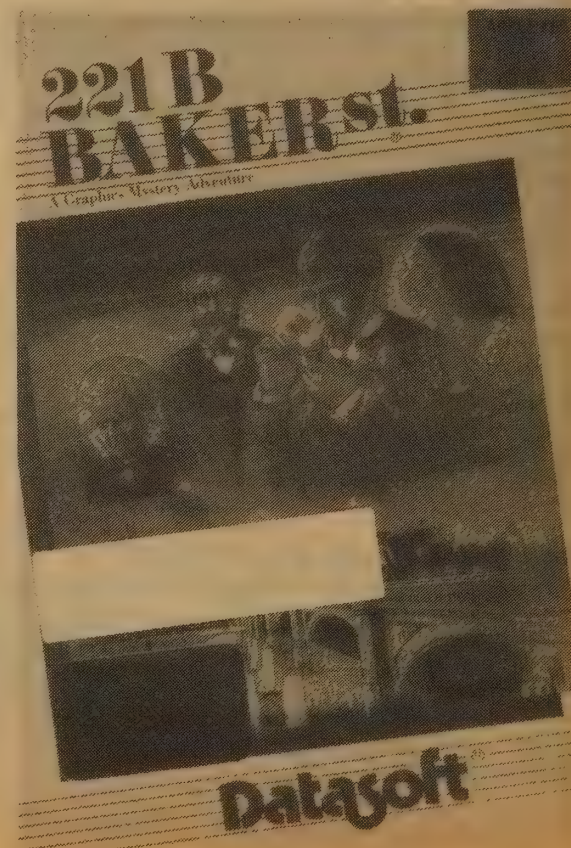


▲ **Blue Lion Software's Ticket To London** is an educational travel simulation and adventure. As you follow a bowler hat around the city in search of your lost return ticket, you learn the ins and outs of an authentically recreated London. As you play you solve intriguing puzzles, dodge the London weather and even deal with fluctuating exchange rates.



▲ **The Tower Of Myraglen**, from **PBI Software**, is a fantasy role playing adventure that pits you as a noble knight against the evil monsters located deep in the tower of Myraglen. Your goal is to capture back the magic medallion that is needed to save your kingdom from darkness.

▶ Relive the adventures of Sherlock Holmes, Doctor Watson, Inspector Lestrade and Irene Adler in **221 B Baker Street** from **Datasoft** and distributed by **Electronic Arts**. Each character competes against the others in a race to solve one of thirty intriguing cases.



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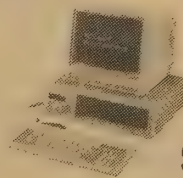
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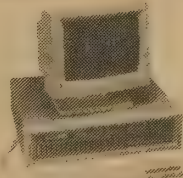


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Apple II users take note: **Applefest** is coming to the San Francisco Civic Auditorium September 18-20. This all-II event offers exhibits and conferences on a variety of subjects of interest to the II community, and provides you with the chance to check out the latest products from Apple and many third-party companies. Be sure to stop by our booth and say hello—and if you'd like more information about the event itself, call Cambridge Marketing Inc. at (617)860-7100.

For those of you who read last month's column and are concerned with the FCC's plan to raise the costs of packet-switched networks (a move nearly certain to drastically increase the cost of using online services): the FCC has now released the docket and is inviting responses. Copies of the FCC docket, detailing planned rate increases and the policy behind them, may be obtained by calling the FCC at (202) 632-7000—refer to Amendments of Part 69 of the Commission's Rules relating to Enhanced Service Providers CC Docket 87-215.

Brock Meeks and **Dave Hughes** have uploaded the entire text of the document to **The WELL's Telecommunications Conference**; it's a fairly long piece, so you might want to download it for offline reading. Discussion of the FCC's plans continues in lively fashion as well, with Dave's plans for a **Modem March On Washington** moving right along, and sometimes-heated differences of opinion between users, politicians, and phone company reps. For an up-to-date account of the state of things (transcending the time limitations of print), check it out: The WELL can be reached at (415) 332-6106; you reach the Telecommunications conference by typing **g tele** at the Ok prompt. The complete text of the FCC docket is in Topic 69, with discussion continuing in Topic 66 and elsewhere.

The FCC must receive your response by September 14, since the rate hikes are scheduled for January 1, so time is of the essence.

Also on **The WELL**, **Steve Brown** would like you to know about his **FairFacts** conference, dedicating to disseminating accurate economic info. It currently provides **SuperCalc** templates of the Economic Report of the President, as well as discussion and analysis of economic issues. For more info, you can write Steve at PO Box 536, San Rafael, CA 94915, or call him at (415) 485-1781.

Speaking of Marin-based telecomm, our friend **Jeff Hellman**, proprietor of Hellman's (a Macintosh store, not Best Foods Mayo cleverly disguised), invites interested Mac users to check out **MacHeaven**, a free 24-hour BBS he's running at (415) 258-9348 (300/1200). Aside from offering uploads and downloads of public domain and shareware programs (games, utilities, music, etc.) and public and private message areas, MacHeaven offers a special section for developers and users of 4th Dimension, the Mac database from Acius. There's also a Mac news and reviews section, plus a downloadable Hellman's price list offering special pricing for electronic mail order. If you'd like more info, you can reach Jeff himself at (415) 453-7924.

From the offices of **Assemblywoman Gwen Moore**, who chairs the Utilities and Commerce Committee in Sacramento, comes news of **The Capitol Connection**. This is a BBS established with the support of **Assembly Speaker Willie Brown** and the Assembly Rules Committee "to test how computer communications can involve citizens in the process of governance," according to the press release.

The Capitol Connection offers over 15 conferences on legislative subjects; its users can also send mail, download press announcements, or enter their own comments and opinions as part of the ongoing discussions. The relatively new board is being accessed by modems all over the state and offers a convenient way to voice your opinions to the state's decision-makers. The board runs 24 hours a day at (916) 442-0746 at either 300 or 1200 baud; settings of 7-1-even are recommended. For more information call Bob Jacobson at (916) 445-4246.

In other BBS news: **Kenneth McPherson** writes in to tell us about **GLEAN (Gay and Lesbian Electronic Access Network)**, which is in the process of providing information and discussion about the National March on Washington for Lesbian and Gay Rights, scheduled for October 9-13. This, says Kenneth, is a board for serious political discussion, not to be confused with some of the XXX-rated stuff you may have encountered elsewhere—he includes a long list of endorsements from outside individuals and politicians "to attempt to separate our BBS from the sexually oriented BBSs that some members of our community have placed online. There will be nothing of an erotic nature on this board at any time." Interested parties are invited to call (415) 441-7671, 24 hours, 8-N-1, 300/1200. GLEAN's voice line is (415) 441-7613.

Woody McPheeters, a faithful correspondent, informs us that the **BAKUP (Bay Area Kaypro Users and Programmers) RBBS** has moved. Woody himself is now the sysop, and the board's new number is (415) 849-9380. BAKUP membership is not required to access the board, which runs 24 hours a day.

For you Southern California online shoppers, the **Universal Marketing BBS** offers hundreds of movie and video titles, as well as a resume transmittal service. There's no charge for first-time users, and the board runs from 6 pm to 7 am (West Coast time) at (213)413-1146. The sysop is **Russ McCor**, who awaits your calls.

And finally, the intrepid **Shane White**, who last adorned these pages as the sysop of **The Dead Knight's Tavern BBS**, regrettably informs us that the Tavern is no more. All is not lost, though—Shane has promoted himself to **WizOp** of **Math Mountain BBS** for "the few—the bold—the foolhardy!" MMBBS offers a fantasy game for true diehards, with 500 levels and a host of forces to thwart you at every turn. You can seek your fortune 24 hours a day at (415) 364-6877, 300/1200.

In user group updates: **Robert Brown** of Campbell writes in with a gentle reminder that the **Gavilan Users Group** continues to offer support, service and new products to the owners of this orphaned machine, a powerful laptop computer that's taken a new lease on life. If you're a current or prospective Gavilan owner, you'll find this group a real lifesaver—write them at Gavilan Users Group, 780 Manx Ave., Campbell, CA 95008.

Maurice Aranda tells us that the **Bay Area AT&T PC6300 Users Group** continues to grow and prosper, offering its members demos, technical help and general assistance. Meeting times and places vary since the membership is scattered throughout the area; for current info call Maurice at (415)972-5436 or **Joe Mahoney** at (415) 586-8376. Alternatively, you can write to the group at 215 Market St. Room 459, San Francisco, CA 94106.

Genealogy enthusiasts might want to investigate

Computer Rooters of Sacramento (PO Box 161693, Sacramento 95816). The group offers its own BBS (**Dynasty** at 916/685-8690), guest speakers, discussions and problem solving, a quarterly newsletter, and mutual assistance with the hardware and software you'll need on your roots search.

Ed Pagter of the **Silicon Valley Computer Society** writes in about the Society's **New User's Group**, which meets on the second Wednesday of the month at Hewlett-Packard, Bldg. 50, 5301 Stevens Creek Blvd. in Santa Clara. (The entrance, says Ed, is just west of the intersection with the Lawrence Expressway). The group is dedicated to providing general discussion of DOS and its intricacies, as well as to provide software and the requisite guidance in its use. Meetings are free, but those who attend are urged to join SVCS. For more information, write Ed at 967 Perreira Drive, Santa Clara CA 95051, or call him at (408)247-9638.

Finally, Commodore users (or groups) might want to avail themselves of the benefits offered by the **Folklife Terminal Club**. This Bronx-based organization offers an extensive catalog of public domain software in a wide variety of categories for PET, CBM, VIC, C64, Plus 4 and C128 computers. While the software itself is free, there's a copying/mailling fee of \$15 per diskette; each machine type has a different catalog disk, so FTS recommends that you specify which machine and disk drive you have when ordering. You can reach these folks at Box 555-DN, Co-op City Station, Bronx, NY 10475.

On that cheerful note, I'm gone for another month. If any of you are in town for Applefest, stop by our booth and say hello. Meanwhile, direct paper correspondence to User Group Network, 5951 Canning St., Oakland, CA 94609, and electronic mail to **microx** on **The WELL**, (415) 332-6106. Also, stay tuned for info on how to send us mail from other systems.

BULLETIN BOARDS

065

Remote Bulletin Board. (065) 242-7669 (Singapore). 24 hours, N-8-1, 300/1200/2400, UL/DL 67 meg. Sysop: Umar A. Rahman.

206

The Board Of Review. (206) 361-8018. 300/1200 baud, 8-N-1, 24-hours, Commodore. Sysop: Ron Strauss.

28 Barbary Lane. (206) 323-2828. 300/1200 baud, 8 bits, 1 Stop Bit, Full Duplex, No Parity, 24-hours. Sysop: Mrs. Madrigal.

209

Region 7 TEC Center BBS. (209) 571-5085. Specializing in music and schools. 24 hrs, 300 baud. Sysop: Dan Guerra.

Inn Finitly BBS. (209) 521-6240. Inn Finitly is an Atari based BBS. Operates on a 130XE with 320K. Signalman 300/1200/2400 baud, 24 hours a day. ATASCII—ASCII. Sysops Buzz and Jann Kelley.

Bullseye BBS. Stockton, CA. (209) 474-FIDO. IBM and compatibles. 300/1200/2400 baud. Open 24 hours, 8-N-1, FidoNet 161/31 Valley PCUG. Sysop: Bob Loeber. Validation required. Lots of MS-DOS shareware.

The Spotlight BBS. (209) 368-5591. 300 baud, 24 hours, 8-N-1, dual drive Commodore 64 operated. Sysop: The Spot.

Bertha Board. (209) 239-9853. 8-N-1, 300/1200/2400 baud. 24 hours. MS-DOS oriented, with

emphasis on programming source code. Free. Sysop: Ken Roach.

Motherload-64 BBS. (209) 754-5530. 8-bit, 1 stop, Punter and X-Modem, D-load, 9:30pm to 6:30am only! 300 baud. Motherload-64 is run by a programmer who is also a Plus/4 owner. Sysop: Larry Anderson.

213

Lynzie's Motherboard (818) 508-6482/(213) 650-0519. 24 hours, 300/1200/2400 baud, 8-N-1. Private E-mail, download library, dating matchup, interactive chat between users, 4 phone lines on rotary. Public boards include employment, food and restaurant reviews, sci-fi, political, debate, for sale and many more. Monthly social happenings for local users. Sysop: Lynzie Flynn.

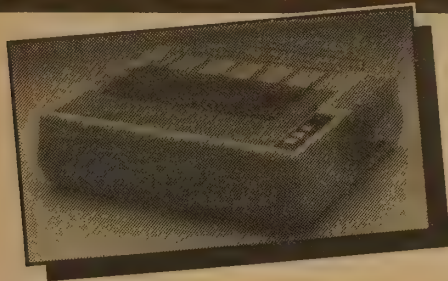
Bulletin Board System. BBS devoted to handicappers and racing fans in So. Cal. On line every weekend. Log-on: race data for Santa Anita, Hollywood Park and Del Mar. (213) 934-6026.

Videodrome BBS. Where computers and video meet. (213) 324-5882. Open weekdays 4 pm - 2 am, weekends 12 pm - 2 am. A Commodore 64 system.

HUG1. The official BBS of the Hollywood Commodore User Group (HUG). All HUG members and visitors are welcome to drop by. (213) 874-8256.

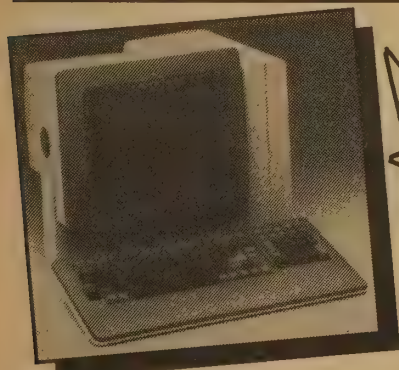
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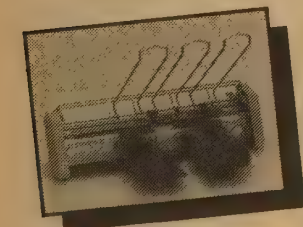
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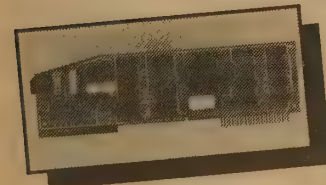


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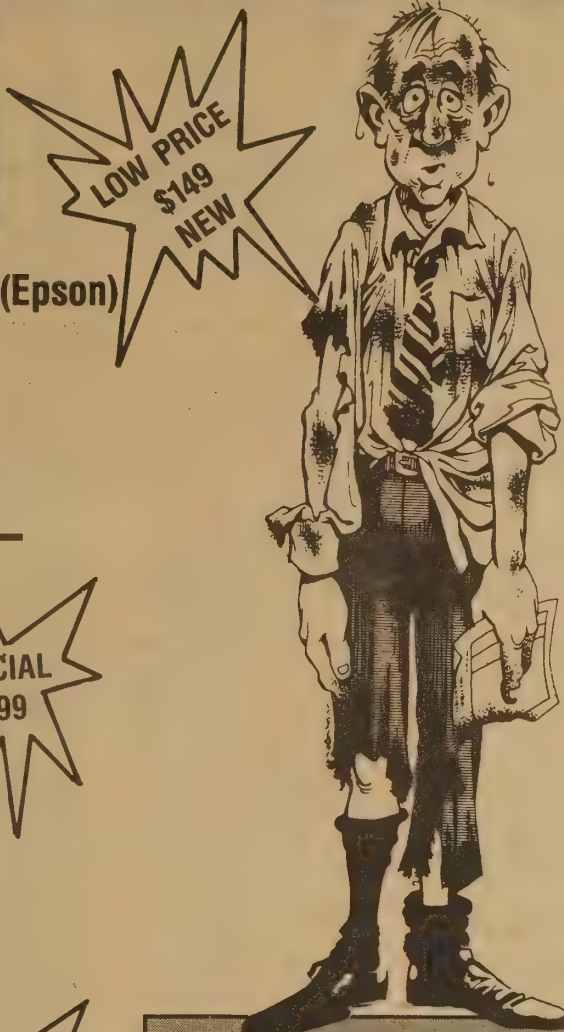
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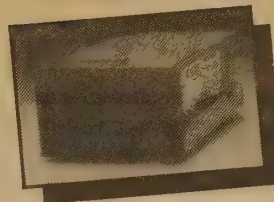
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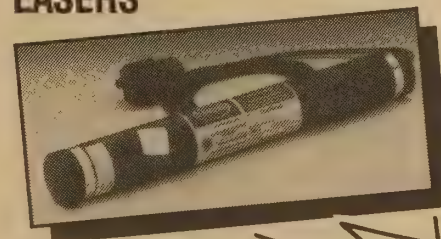
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International Collectors Network. Coins, stamps, baseball cards, books, records, antiques and anything collectable can be bought, sold, or traded on the International Collectors Network BBS. Regional lists of collector events and shows in many categories. Also names and addresses of many collector organizations. Accessible using PC Pursuit. Data phone available 24 hours, 7 days at 300/450/1200/2400, 8, N-1. (213) 204-0646.

The Computer Consultant's Network. (213) 479-4074. Running a modified version of Martian! Software. 24 hours a day. This is not a job board, but merely a place for computer professionals to network and share information.

Computer Conference Center. (213) 212-5267. TBBS w. Commodore, IBM, TI, Atari, Epson, Apple etc. sub-boards. Large DL with CP/M, MS-DOS and TR-DOS programs. Laurie Flood, sysop.

Hughes Aircraft Message Service. Uploads and downloads for Mac, IBM, Commodore, Atari, etc. Public message boards. (213) 549-9640. 300/1200, 24 hrs., 7 days.

Monolith-1.7 great public boards, private electronic mail, social events. (213) 659-JEDI. 24 hours, 1200/300. Sysop: Erik Goldman.

Mid-Cities Atari ST BBS. 300/1200, 8-0-1, 24 hours. (213) 867-1943. Sysop: Darin Ferraro.

PC Heaven. A multi-computer BBS that features downloads for many different PCs. E-mail, files for various machines, general to SIG message bases. No fees, no special application request forms. Just a fun BBS for everyone. (213) 374-7929. 300/1200, 7 pm-7am M-T, 24 hrs. F-S-S. Sysop: Tony Reeves.

Tele-Web. (213) 372-4050. 300/1200, 7-1-N, 24 hours, multi-user. **MicroTimes Electronic:** Southern California edition of *MicroTimes*. Articles, events calendar, BBS and user Group listings for Southern California, classifieds. Type GO MICRO. **Home Loan BBS:** Up-to-date home mortgage rates supplied to you by Pacific Mortgage Group, a company that prides itself in getting you low mortgage rates. Rates are updated weekly. Type GO LOAN. **Dining-Line:** South Bay database of online restaurant menus. Menus may be searched by type of cuisine, price of a meal, name of restaurant, etc. Database includes complete menus and a community forum. Type GO FOOD. **LA Weekly Electronic:** electronic version of LA's largest weekly entertainment newspaper. Includes feature articles, calendar and events listings, classifieds and more. A new edition each week. Type GO WEEKLY. **Easy Reader Electronic:** electronic edition of the Easy Reader newspaper. Includes feature articles, weekly calendar, night club listings and classifieds in over 80 categories. Type GO EASY. FREE.

T.U.S.D. (213) 533-4545. 10+ megs downloads, WWIV software, BBS list, several message bases and SIGs, mail, online help. Run on IBM AT, 24 hours for summer (5pm-7am during school). Free, 300/1200 baud. Sysop: Wayne Hoover.

Jukebox Bulletin Board (JBBS) (213) 670-8053. 8-N-1, 24 hours, 7 days, 300/1200 baud. Message board for buyers, sellers, and anyone interested in antique jukeboxes. Free. CP/M password available on request. No Fees. sysop: Ray Etchepare.

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Bloom County "Nochange" BBS. (213)615-0528, 8-N-1, 24 hours, 7 days, 300/1200 baud. Bloom County is an IBM BBS running Nochange software. This system features online games, file uploading/downloading and the best e-mail system around! Call and join our Quorton-The Later Years D&D message base. Sysop: Brody Schiess.

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CompuCenter Long Beach. (213) 421-1041. 8-N-1, 24 hours, 300/1200. Multi-interest board in Long Beach with everything from Aviation sub-board to Mature Topics and IBM, C64/128, and Amiga. Sysop: Ken Cothran.

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The Talk Line. (213) 938-9697. 3 message bases: general board with discussions on current subjects or anything anyone wants to debate, a sports board and a music / movies board. 6 pm-7am. 300 baud, 1 stop, 8 WL, no parity, full duplex. Sysop: Frodo.

The Starship Sardonyx Net. (213) 467-6667. 8-N-1, 300/1200, 24 hours. We offer extensive general files, online games, up and download subs, 8 message bases, e-mail. Large public domain section for Commodore users. Sysop: Zed Yago.

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(PG) Board. (213) 836-6439. 24 hours, 7 days, 300/1200 baud, 8-N-1. Relationships, sexuality, money, morality, economics, politics, religion, art, music, literature, theatre, philosophy, the nature of the mind. If they mean a great deal to you, please give us a call. No uploading or downloading. Conversation only.

CompuCenter/LA. (213) 435-3757. 8-N-1, 24 hours, 300/1200 baud. Multi-user board including conferences for Amiga, IBM, C64, C128, TRS-80. Reviews on software and hardware. For Sale section and much more. Up/Downloads section for all listed. Sysop Rick Gaspa.

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Computer Quick, Inc. (213) 941-3554. 300/1200 baud. Even, 7 data, 1 stop. BBS dedicated to repair, upgrade or information on computers only. Sysop: Sam Noonon.

312
Feminist BBS. (312) 225-9138. 8-N-1, 24 hours, 300/1200 baud. Feminism, women's issues, general talk. Sysop: Susan B. Anthony.

408
Atari Base BBS (408) 745-5308 or (408) 745-2642. 300/1200 baud, any time, any day. The official BBS of Atari Corp, for all Atari computers.

Byte Bandits ColossusNet. (408) 374-3974, 300/1200, 24 hours. Network USA. Sysop Sam C. Brown.

Blizcomp BBS. Sunnyvale, CA (408) 720-9212, 300/1200, 24 hours. Message base specializing in modern technical help, with a special message conference for sysops. No file transfers available. No registration fee, but requires home & business phone numbers on first call.

Non-Smokers BBS. (408) 298-4277, 298-GASP, 8-N-1, RBBS PC, 24 hours per day, 300/1200 baud. Sysop: Ed O'Dwyer. Features non-smoking areas in restaurants and hotels, health info, diner's conference, messages, public domain software.

Home Board (408) 277-0106 no fee. A non-profit BBS focused on housing issues in Santa Clara County. 1200 baud, 24 hours M-F (8 am Monday through 5 pm Friday). Sysop: Charlie Chew.

Board III (408) 985-7573. 300/1200 baud, 24 hrs., 8 bits, no parity. Board III is an ongoing experiment in telecommunications. Atari-based, but all computers welcome. Sysop: "The Chairman."

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SDI Clearinghouse BBS. Morgan Hill, CA, (408) 778-3531, 300/1200 baud, 24 hours. Supports the L5 Society in promoting the development of space.

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Digikron Systems (ZNode 25). (408) 253-1309. ZRDOS/ZCPR3 Macintosh and Apple CP/M, 72 megabytes. 300/1200 baud, 8 bit, no parity. 24 hours/7 days. Sysop: Douglas Thom.

SOFTREK. (408) 438-6506. 8-N-1, 24 hours, 300/1200 baud. Sysop Mike Floyd.

Hotel California. (408) 942-1081. 24 hrs., 300 baud, Commodore oriented.

The Flying Fido. Fido network 143, node 23, is now up and running 24 hours per day, except during FidoMail. 300/1200 baud, (408) 946-3183. Special interest in aviation; ul/dl of pd software. Free.

Association of Apple 32 Users BBS. (408) 263-0299. 24 hrs., 300/1200. Sysop: John Griffith.

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Public Domain Software Special Interest Group (PDS-SIG) BBS. San Jose, CA. (408) 270-4085/4086, 8-N-1, 1200/2400 baud, 3 nodes, 24 hours. Features over 175 meg of up to date public domain shareware

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The Wounded Land. (408) 736-6490. Active fantasy role playing games. 24 hours, 300 baud. Sysop: The Spirit.

Bay Area Bulletin Board. (408) 723-7238. 24 hours, world wide net mail, 66 megs of online programs for download, adult message area, several special interest areas. 8-N-1, 300/1200/2400 baud. Sysop: Jim Acker.

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Computer Tyme. (408) 732-2187. 300/1200, 24 hours weekends, 7 pm-9am weekdays. Sysop: Gary Araki.

Gino's. (408) 371-2703. 300/1200, Commodore UL and DL. Sysop: Porkchop.

The PET Sematary. (408) 263-3486. Commodore specific, X-Modem, Punter files, XSee. 300/1200 baud, 8-N-1, weekdays 5 pm-10 pm, weekends 10 am-10 pm. Sysop: Grave Robber.

Enable BBS. (408) 998-8927. 300/1200, 24 hours. We're here to provide support for your computer. IBM based, but all users welcome. Also featuring "Dear Enable," the alternative to suicide. Sysops: Rob Ehlers, Tim Duncan.

DYM #56. (408) 736-7356. 8-N-1, 24 hours, 300 baud. Features user match function and e-mail, five message boards including Public, User Activities, The Flea Market (Buy/Sell/Trade) and two Adult Only boards. No fee required, but online registration is required. Sysop: Velvet 150.

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Professional Software Programmers Association. 830 Bay Avenue, Suite G, Dept. F, Capitola, CA 95010. A 24 hour service and support bulletin board for computer professionals. (408) 462-2829. 8 bit, no parity, 300/1200/2400 baud. No fees. Product reviews, professional job registry and consulting registry services. Ask for copy of the Association's free monthly newsletter and membership information packet.

The Dynamic BBS. (408) 972-9750, San Jose, 22 hours, 7 days, maintenance 5-7 pm daily. Registration required. Features: contests and prizes, 100 meg of d/loadable files and more. Coming attractions; multi-lines, on-line programs and games, multi conference areas. 1200/2400 baud, with limited access to 300 baud users. Sysops: Terry & Sharon, The Dynamic Duo.

The Portal System™. (408) 725-0561, 300/1200/2400 baud, 8-N-1, 24 hrs. Features USENET Int'l. Net w/250+ conferences including IBM, Apple, Mac, Atari, CP/M, Unix, social topics, cars, cooking and gardening. UUCP, BITNET mail access. Live chat shows every night. Say you saw it in *MicroTimes!*

ST-Hotline BBS. (408) 374-5739, 24-hours, 7 days, 300/2400 baud, Atari ST only, newest public domain software, news and message base, 20-meg hard disk.

Perigrine Data Systems BBS. (408) 997-6254, 24-hour, 1200/2400 baud, PC board. PC based BBS, no fee. Features PC public domain software for DOS utilities, games, C and Assembler source, business and printer utilities. Conferences dedicated to DOS, communications, UNIX and PereLine technical support. Sysop: Einar Pedersen.

The Campbell BBS. (408) 379-4830. 3-2400 BPS, No Parity, 1 stop bit, 3/12/2400, N-8-1, 24-hours. No registration required, immediate access, MS-DOS-others, includes suport for "Bob's Term-Pro" terminal software. Sysop: E. Munson.

National Computer Club BBS. (408) 866-2670. 300/1200 baud, 8-N-1, 24-hours, 7 days a week. IBM and Apple II software, shopper service, 2 conference lines: general and adult BBS listings, UL/DL. Membership required for major functions. Sysop: Michael McCake.

Timex/Sinclair Users Of Silicon Valley BBS. (408) 735-7390. Public Domain Software Exchange. 300/1200 baud, 8-N-1, 24-hours, 32 lines. No waiting!

Apple Blossom User Group (ABUG) Let's Talk Line. (408) 227-3993. 24-hours. Sysop: Ron Horio.

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PC-TECH. (408) 435-5006. N-8-1, 300/1200/2400 baud, 24 hours. Sysop: Vince Butena.

Desktop Systems BBS. Line #1, (408) 945-8251, Line #2, (408) 243-7122. 300/1200/2400 baud. 24 hours, 7 days a week. 480 meg online files. 2 lines. Files for IBM, Atari, Apple, Commodore on on-line games. All for free. Sysops: Charles Bowens and Grafo Stimix.

San Jose Access System. (408) 448-1637. 24 hours, 8-N-1, 300 baud. 300/1200/2400 as of Aug. '87. One of the most accessible systems in Northern California. Six hours per user call! Atari based, but all sys-

tems welcome. Sysop: Greg Argendelli, a.k.a. The Doctor.

Griddle. (408) 749-8165. 300/1200/2400 baud, 8-N-1, 24 hours. Truly tasteless BBS conference, GRID Q & A Conference. Sysop: Tim (Slick) Carlson.

ShrinkTank BBS. (408) 257-0323. 300/1200 baud, 8-N-1, 24 hours. Psychological / mental health theme. All users welcome. Download files available as well as very interesting text files. Confernces/Sigs run by health and other professionals; get answers to your questions. Doors to be added soon! Sysop: Dr. Skip Bischoff.

SailNet. (408) 735-7105. 8-N-1, 300/1200 baud, 24 hours. A new communication medium dedicated to the sport and business of SAILING. Racing, cruising, day sailing. No time limits. No busy signals. 3 lines available. Sysop: Mark Jackson.

Champion BBS. (408) 249-6434. 24 hours, 1200/2400 baud, 8-N-1. Free software. Buy and sell, Updates, Ideas, Newsletter. Brought to you by Blue Collar Software. Sysop: Al Nunley.

The Treasure Chest BBS. (408) 422-3727. 300/1200/2400 baud, Atari ST. Supports Atari, Apple, Commodore and IBM. UL/DL 20 Meg on-line. Sysop: Bon Baldaue.

415 KayFog RBBS. A system designed for novice callers. No fees, but registration required. PO Box 11135, San Francisco, CA 94101. Sysop: Bond Shands. (415) 285-2687, 300/1200 baud.

The Bay PBBS 300/1200 Baud full duplex. 24 hrs., 20 megs online. Apple super-32 computer section, excellent Macintosh/Apple II downloads. (415) 775-2384. Easiest to get through in the mornings.

TI BBS 300 baud, 24 hours. All systems welcome. Free. 4 message bases, large data base on various subjects. (415) 994-4877.

BAKUP (Bay Area Kaypro Users and Programmers) (415) 849-9389. 24 hours. No membership required. RBBS & RCP/M. Sysop: Woody McPheeters.

MBL Referral System BBS A board dedicated to personal messages and advertising listings. Modem: (415) 444-6362; 6 pm - 6 am weekdays, 300 hours weekends. MBLRS BBS users meeting Saturdays, 5:30 pm, 1555 Lakeside Drive, Suite 23, Oakland. Call (415) 444-3033 for info, ask for Mel.

Sports for the serious fan! Latest scores, transactions, injuries and updates, plus the complete betting line for all NFL games, as well as baseball, basketball, hockey, horse racing, and boxing news and results. For personal I.D. and access code and more information, send your name, address and phone number to California Sports Book, 3550 Cattail Court, Union City, CA 94587, or call C/S/B BBS at (415) 471-3591.

ROOTS BBS. Available 24 hours, 7 days a week, supports 300/1200 baud at 8/N/1. Specializes in genealogical information with messages, upload and download of CP/M, DOS, Apple software. Sysop: Brian Mavrogeorge. (415) 584-0697.

Welch Net II. A public FIDO BBS. Message areas devoted to Turbo Pascal programming and Seequa Chameleon computers. Available 23 hours/day. (415) 664-2811.

The General Store Public Domain Programs. Computer industry and computer product information. Hundreds of diverse public domain programs including science, music, education, games, financial, and business programs for the Apple computer. Easy to use. 300 baud, 9 am - 12 pm, (415) 851-4497.

Software First BBS 24 hrs., 300 baud. (415) 459-1544 Marin, (707) 579-1478 Sonoma. 23 message boards restaurant, sales, Amiga, ST, women's forum, reviews, sci-fi, general E-Mail, monthly specials on hardware, software, peripherals.

Bay Connexion BBS (415) 621-7561, 9pm - 9am. 300/1200 baud at 8/W/I. Macintosh Software, Classifieds, Personals, Sexual Freedom, and Star Trek. Claude Wynne, sysop.

Earth-Rite RBBS. We specialize in Earth Religion and related topics. We are not a software exchange. (415) 651-9496. 24 hrs., 300/1200 baud.

MacQueue BBS (415) 661-7374. 100% Macintosh BBS with 8 megs software for download, message base, and FidoNet Mail (Net 125 Node 2). Instant access, 24 hours, 300/1200/2400 baud. See you on the Q!

MacCircles BBS (415) 484-4412. 24 hours, 300/1200 bps, Mac/Lisa downloads, message base, E-Mail.

Spiritual World. Center for sharing spiritual development. 300/1200, 24 hrs, (415) 366-9033.

Super Resume. A free resume composition system for software engineering and MIS professionals. Produces a detailed, accomplishment - oriented resume. Also the latest weekly FidoNews and FidoList, plus two unique free-form, full-text data base systems available for downloads. No charge. 300/1200, 8, 1, N. 24 hrs. (415) 546-0119 modem, (415) 788-6000 voice.

Co-Ed & Associates. (415) 938-9470. 24 hours, 7 days, 300 / 1200 / 2400. CPM / CPM+ / MS-DOS / Morrow / Zenith / PC and clones. Sysop: Werner L. Gumpert.

Humor & Wisdom. A board dedicated to the exchange of comic relief and things to ponder in a new age of consciousness. Free, as all things should be. 300/1200 baud, (415) 937-2508.

Open Campus BBS (415) 895-0135. Operated by San Leandro High School and Apple Eaters Users Group, 5 meg, 20 message bases plus library. 24 hours, 300/1200. Sysop: Bob Shaylor.

Photobytes, a photography oriented BBS, features product information, help files, photo contest listings, plus much more. Sponsored by Wentling Camera Shops. 300 baud, (415) 439-2515, 24 hrs. 7 days.

The Castle BBS. (415) 355-8150, 24 hours. 300-500 baud, 8 bit, 1 stop, no parity. We have 4 message bases, e-mail and UL/DL. CBM oriented but all systems welcome.

Low Overhead BBS. User-friendly BBS, 24 hours, 7 days a week. IBM software, motorcycles and motorcyclists. (415) 763-6794 or (415) 835-9959.

Guideboard, Cabbie's Guide to San Francisco. Where to go for restaurants, doctors, auto repair, etc. The sysop gets his tips from driving a cab; the callers furnish the rest. The BBS also has an resident astrologer, Swami Tommy. The Swami gets his tips from the stars. Ask him any question. (415) 864-3858, 300/1200 baud.

Entrepreneurs BBS: Official BBS for Community Entrepreneurs Organization (CEO), and XT Compatible Club. 1200/300 baud. 24 hours, 20 megs., 8 bits, no parity. Entrepreneurial networking and information, brainstorming, and on-line support for IBM XT clones. Sysop Edwin Rutsch. (415) 552-9070.

APT Action BBS. C64 board dedicated to exploring on-line entertainment. Free ACTION-AUT software. 24 hours, 300 baud, (415) 322-3213.

RSVP BBS. (415) 659-9169, 300/1200, N-8-1. 24 hours. Sysop Jim Thomas. FAUG Amiga User Group discussion and file area, Dr. Who forum, Sanyo, IBM, CP/M files, CP/M forum, Ohlone College forum.

Marin Community BBS (415) 459-3326. 300/1200 baud, 6 pm - 10 am M-S, all day Sunday. 520 ST/Atari information. Sysop Dave Powers.

MacCircles EBBS (415) 484-4412. 24 hours, 300/1200/2400. Running Red Ryder Host software on a Lisa 2/10 (Mac XL).

Large software exchange, private mail system, public messaging.

Musician's Network BBS. Musician's information exchange. Space for want ads, bulletins, and public mail. Uploading and downloading available. BBS operates on Fido Software. 8 bits, no parity, 1 stop. Weekends only, 6pm Fri-6am Mon. (415) 893-1618. Sysop: Erik E. Hayles.

520 ST Atari BBS (415) 783-5545, 24 hours, 7 days a week. 300/1200, 8 data bits, 1 stop bit, no parity. Official Sixteen Bit Atari BBS of the San Leandro Computer Club, this system offers full support for all Atari ST system users. Currently running on a ten megabyte hard disk system, the system has many special interest areas including graphics, C, Pascal, LOGO, Basic, MIDI / music, communications and more. Supports four types of XModem/Modem7 and Kermit protocols. Call today! Sysop: Michael Curry.

AutoCAD RBBS (415) 547-5264. 24 hours, 7 days, 300/1200 baud, 40 megs online. Sysop Robert Schultz. Supporting AutoCAD, the world's most widely used PC based design/drafting software. There are 4 megs of AutoCAD drawings plus third party public domain programs that work with AutoCAD (i.e. menus, Autolisp and lisp macro libraries) available to download.

AIDS Information BBS (415) 626-1246. 24 hours, 300/1200 baud. Sysop Ben Gardiner. Free. All welcome. Statistics from Atlanta and San Francisco displayed, updated regularly as received. Sample Q & A about AIDS, based on clinic and phone exchange experience. Mail send/receive on AIDS; please not on other subjects due to limitation of one phone line. Please also no more than one hour per day. Mobilization Against AIDS information here. Calls to this BBS never disturb anyone.

Actrix Enthusiasts RBBS / RCP/M (415) 968-1783. 300/1200 baud, 24 hours. Free. Registration required. 46 megabyte CP/M system. In Mountain View. Sysop: Andy Bajka.

BBS-JC Just Computing. (415) 961-7250, 7E1/8N1. 24 hours/7 days, 300/1200/2400. Amiga and CBM public domain software. If it's new, see it here first! 8 sections including Commodore announcements are currently in operation. This board is especially for "Silicon Valley" Commodore users. Sysops: Thad Floryan and John Cronin.

Bug's Net HP. This bulletin board has over 20MB of PD software available. Message areas include HP300, IBM PC Technical and consultants forum. Fido node #10/777 (pending). 300/1200/2400 baud. 24 hours. (415) 236-1823. Sysop: John Buginas.

Professional Software Programmers Association. 830 Bay Avenue, Suite G, Dept. F, Capitola, CA 95010. A 24 hour service and support bulletin board for computer professionals. (408) 462-2829. 8 bit, no parity, 300/1200/2400 baud. No fees. Product reviews, professional job registry and consulting registry services. Ask for copy of the Association's free monthly newsletter and membership information packet.

A.M.U.L.E.T. II: Inform-Serve. (415) 989-5054, 24 hours, 7 days, 300/1200 baud. 95+ subboards, on-line gaming and many RPGs, 52 MB of on-line storage. Sysops: The Starmaster/Magician Merlin.

L'Express! (415) 538-6340. 300/1200 baud, 9pm-6am daily. For serious Atari 8-bit users. Over 100 selected public domain programs available for downloading. Free but validation required for complete access. Sysop: Roadrunner.

Math Mountain BBS. (415) 364-6877. 300/1200 baud, 24 hour. For the few, the bold, the foolhardy! An intelligent and demanding fantasy game and message system which chal-

lenges your creativity and excellence as you climb up through 500 levels of power and responsibility. Beware of the many forces which can thwart you in your quest! Warning: you might forget that this is a game. WizOp: Shane White.

MicahLink. Free, 24 hours, 7 day private BBS for Mac users. Sponsored by Micah, Inc. On-line support, discussions, directory of MicahDrive dealers. (415) 771-1119 modem, (415) 331-6422 voice.

The Pirate's Hollow BBS. 24 hours, 300 baud. Ye Cap'n: The Atari Pirate. (415) 593-6784.

Draco-Net Prime. (415) 474-8608, 300/1200. Official BBS for: A+ Magazine, International Apple Core, San Francisco Apple Core, Apple Three Users of Northern California, and Carrier." 24 hours, no fee. Leonard Reed and Jono Smith, Sysops.

Recovery BBS. (415) 621-5206. FidoNet Nodes 125/9 and 125/31. If you are in a 12 step recovery program, or think you have a problem with alcohol or drugs, or if you are compulsive about eating, smoking, or sex and love, call. Share your experience, strength and hope in message sections that include AA, NA, CA, OA, SA, SLAA and Alanon/CA. There are meeting listings in the file areas.

Cat's Tail Mega-System. (415) 349-TAIL (349-8245). All welcome. Nearly 100 public message forums, both computer- and non-computer-related subjects. Five on-line games, public domain file transfers for IBM, Apple, CP/M. Running on Apple IIGS. 300/1200, 24 hours.

Family Radio Forum. (415) 562-5483. 300/1200/2400, N-8-1, 24 hours. Download, upload, message, conference on parenting. For teens, singles, etc. Christian TBBS for everybody. Sysop: Richard Yim (voice 415/568-6200). Also (301) 261-1423 (Annapolis, MD), (712) 246-2115 (Shenandoah, IA), (916) 481-6320 (Sacramento, CA), (201) 736-1859 (Newark, NJ), (813) 269-7957 (Okeechobee, FL).

POPnet Berkeley is 15 lines of fun and games for all. Chat, CB channels, games with others. Mail and bulletin boards, of course. Not free, but cheap. 24 hours, 300/1200, (415) 527-4510. **POPnet San Ramon** is 10 lines of fun and games. Chat, CB channels, games with others. (415) 830-1191. **POPnet Walnut Creek** is 19 lines of fun and games. Chat, CB channels, games with others. (415) 932-4263. **POPnet Marin**, (415) 927-7400.

Vaudeville Local. (415) 337-8693. 24 hours, 8-N-1, 300/1200. Vaudeville Local is a BBS dedicated to vaudeville and circus arts. Sysop: Arthur Conway.

Crossroads BBS. (415) 968-9341. 300/1200 baud, 8 bits, no parity. 24 hour operation. File transfer for IBM/compatibles, Commodore 64. Message bases include space travel, singles, political dissent, sexual freedom, stories, poetry, musician's referral, programmer's corner, adventure gaming. No fee. Mike Macgirvin, sysop.

LaserWriter BBS. (415) 261-4813. 300/1200 baud, 24 hours. BBS dedicated to desktop publishing. Sysop answers all related questions. Located within Allen Computer Graphics, desktop publishing specialists. Files, messaging, user groups, e-mail. Upload direct for LaserWriter printout or to order other products offered by Allen Computer Graphics. Macintosh and other computers welcome. Sysop: Tom Allen.

The Records Department. (415) 426-0470. User registration required. Public domain and shareware programs available for download at 300/1200/2400 baud. Caters to IBM; also Apple, Commodore, Atari. Large, friendly discussion section with something for everybody: games, voting booth, technical help. Bill McCauley, sysop.

Silicon Valley Computer Society BBS. (415) 968-6891, 300/1200, 24 hours. Sysop: Herb Shear.

Computer Adventure Center, C.A.C. 24 hours daily, 300-2400 baud, in Fremont. No fees, IBM based but open to all callers. New BBS#: (415) 490-7365. Sysop: Al Demar.

Breakthrough Software BBS. Support for TimeLine users. (415) 892-0408, 300/1200/2400 baud, 8-N-1. XMODEM or Kermit protocols. 7 days, 24 hours.

EBMUG BBS. Running 24 hours a day, 300/1200, 8-N-1 at (415) 848-2609. Private mail system, public messages, Macintosh software.

KAY + FUN RCP/M. (415) 572-8219. MS-DOS, CP/M, modems, business applications (e.g. dBASE, Lotus, Reflex, Wordproc). General discussion of commercial and public domain software. Also public domain and private file transfers and more. FREE online registration. 300/1200/2400. Sysop: Ernest Hintz. Sponsored by KAYFUN users group.

Programmer's Circle. (415) 239-1722. 8-N-1, 300/1200, weekdays 3 pm-11pm. The Programmer's Circle specializes in carrying source code and tools to aid the programmer. Special attention is given to the Macintosh and Apple II computers, but all computer users are welcomed. Data files are online for the Mac and Apple II computers. Sysop: Roger Gibby.

The Live Wire. (415) 540-0529. 300/1200, 24 hours. A digital magazine for the graphic-arts community (printers, typesetters, self-publishers, artists). Free. Sysop: Rick Hepting.

SIGSIG BBS/RCP (formerly MEBBS) is back online! Member of the FOG and PRACSA networks. Supporting CP/M and MS-DOS public domain software and a public-access message system. No fees, novices welcome. Online registration for FOG, PICONET and PRACSA members. 24 hours, 300/1200/2400 baud. Sysop: Jim Switz. Located in Mountain View. (415) 968-7369. Call today!

Cold Moon On A Single Star. (415) 668-6101, San Francisco. 24 hours, Fido board. Chinese culture, history, language, Chinese cooking, discussion, etc. Asian community events. Sysops: Joseph Puig and Susan Chen.

Dr. Don's TBBS. (415) 885-1973, San Francisco. 300/1200, 24 hours. CarTalk and Sports-Talk discussion and special interest boards. Private e-mail. All automobile sportscar enthusiasts, sports fans, softball-baseball-football players are invited to call. Sysop: Dr. Don. Co-sysop: Bimmer Pilot.

Centerville RBBS. (415) 793-3037. 300/1200/2400 baud, E-7-1 or N-8-1, 24 hours daily. Sysop: Joe Halbleib.

The Board. (415) 652-8277. 1200/2400 baud, 8-N-1, 24 hours. Public and private conferences, technical support. For AT&T and compatibles; AT&T PC support conferences. Associated with Bay Area AT&T PC6300 Users' Group. Sysop: Troy Blackburn.

Attitude Adjustment. (415) 939-1639. 8/N/1, 24 hours, 7 days, 300 baud. Call today and get your Attitude adjusted... just for fun. If you have an Attitude and want to tell people about it, you know where to call. Small but growing system: 8 message bases, private e-mail, voting, textiles and a few downloads. Emphasis is on interaction between Adjusters on the message bases. Sysop: Rick Adjuster.

Dial-Your-Match #341 in Hayward. (415) 489-2572. 24 hours, 7 days, 300/1200 baud, no charge. Sysop: The Matchmaker.

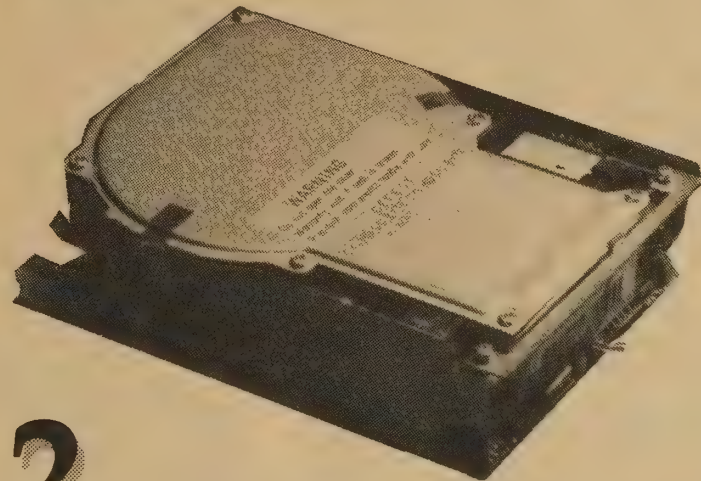
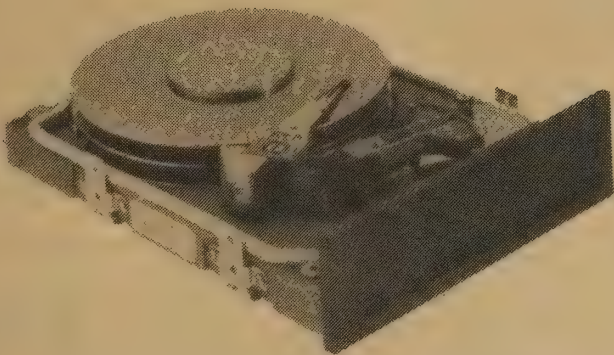
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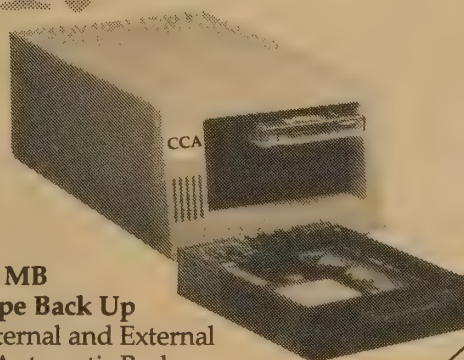
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the like. Fido 161/201. Sysop: Robert Parks.

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DYM #56. (408) 736-7356. 8-N-1, 24 hours, 300 baud. Features user match function and e-mail, five message boards including Public, User Activities, The Flea Market (Buy/Sell/Trade) and two Adult Only boards. No fee required, but online registration is required. Sysop: Velvet 150.

Palladin BBS. (415) 332-1655. 1200 baud, 8-N-1, 7 days, 24 hours. Sysop: Al Kallian.

The DeskTop Publisher. (415) 856-2771. 300/1200/2400 baud, 24 hours, 7 days. Dedicated to desktop publishing, with particular emphasis on the use of DOS based hardware and software. Upload / download / messages/conferences. Anyone interested welcome. No fee. Registration required for full participation. Sysop: Freeman Bradford.

The Nimitz DownPort. (415) 276-3677. 8-N-1, 24 hours, 7 days, 300/1200 baud. The Nimitz DownPort offers a wide variety of message bases including Adult. With a BBS that has parties, educational offerings, discussions with nationally- and locally-known "geniuses" and experts, and "hands-on" role-playing games, there is no reason not to dock here. Call today and be a part of tomorrow. Sysops: Lady Godiva and Portmaster Kevin Munrow.

Marin-Sonoma PC Users Group BBS. (415) 927-1216. 300/1200 baud, 8-N-1. Sysop: Howard Leistner.

California ConneXion Party-line. (415) 927-2739. 8-N-1, 300/1200/2400, 24 hours. Member of BayOps. An adult oriented multi-user, multi-interest system featuring matchmaking, 20+

public message boards, on-line chat with other users, questionnaires upload/download library, pictures, private E-Mail and more! Extremely fast system running on an IBM/AT at 9.5 mhz with 70 megs of storage and 9 lines on a rotary. Registration required! Sysop: Alan.

Impeesa's Path. (415) 582-4863. 1200/2400, 8-N-1, 24 hours. Focused on outdoor activities. Conferences on camping, hiking, fishing and hunting, photography, Boy Scout activities. Also features "Doors," supports graphics. Sysop: Ed Reardon.

The Wizard Net. (415) 481-8413 San Leandro; (415) 232-6981 San Pablo. Full duplex, 1 stop bit, no parity, 6 am-6pm M-F, 24 hours weekends, 300/1200 baud. A user friendly system that utilizes Commodore color graphics. The more time that you put into the system the more you will be able to get out of it. System has bulletin boards, e-mail, voting booth, a chat feature, ul/dl, and online games. There are no fees, and everyone is welcome. Registration required. Sysops: Dave Rasmussen, Keith Parrish, Olivia Parrish.

AI-NET. Public OPUS board with 20 MB of files. Echo newsgroups for dBASE, Technical Forum, Mainframe Forum, Software Evaluation, Buy/Sell, National Mail, and more. Available between 3 am and 11:30 pm daily. 300/1200 settings: 8-N-1. 125/125 in the Matrix. (415) 776-6628.

SFPCjr UG BBS. (415) 997-4874. Sponsored by the SF PCjr User Group. 1200 baud, 8-N-1, 24 hours. Sysop: Larry Buoncrisiani.

RSVP BBS. (415) 659-9169, 24 hours. Japan mail exchange, Doctor Who, Ohlone Forum, Amiga Music-net and Tech-net. IBM/Amiga/Atari files. Always something new! Sysop: Jim Thomas.

tsunami bbs. (415) RAM-2-RAM. Graphics specialty board for most microcomputers. Sup-

ports wider interchange of graphics files between "incompatible" systems. U/L's and D/L's for graphics programs and picture files. Collects and distributes p-d graphic format conversion programs, as well as picture files in Microillustrator-compatible, IFF and CocoMax formats. 300/1200 baud, 8-N/1, 24 hours.

Trading Post BBS. Information Exchange system, (415) 948-4163. Open system with more than 20 discussion groups covering everything from Atari to ZCPR3. Online games and 200+ articles. Free. Sysop: Lars Rosengreen, a.k.a. Eskimo.

SPACE-The Stanford Palo Alto Computer Exchange. A BBS for PC professionals and power users. Validation required. (415) 964-9039, multi-node, 2400/1200 baud, N/8/1, 24 hours. Sysop: Jay Fox.

Production World On-Line. (415) 571-6160, 300/1200/2400 baud, 24-hours. An additional service from Production World On-Paper, a printed publication for the motion picture film, broadcast television, video and audio communities featuring Northern California people and facilities. A variety of information and message bases available. Sysop: Wes Dorman.

Amiga Addicts Anonymous BBS. (415) 283-5469 "BUD-LINX." 24-hours, Xmodem, 300/1200 baud, N/8/1. Sysop: Randy Spencer.

Aardwolf Express Family Forum. (415) 651-4147. 24 hours a day, 7 days a week. 300/1200/2400 baud. Located in Fremont CA. System offers: *Infomat*, an electronic computer magazine; *Showcase*, shareware and demonstration programs download; complete King James Version of Bible online; *Discovery* (Christianity); *Friends* (user profiles and interests) and user opinion polls. Sysop: Veit Anton Johnson.

The Guardian. (415) 644-6806. The Berkeley Police Department's public relations and community service bulletin board.

Lists crime prevention information including neighborhood and business watches, crime statistics and recent press releases. Community organizations are encouraged to call and post events. Everyone invited, you need not be a Berkeley citizen. 24-hours, 7 days a week, 300/1200 baud. Sysop: Officer Carl Orsi.

Commodore Connection BBS. (415) 458-1005. 1 stop bit, no parity, 7 or 8 bit word, 300/1200 baud, 24-hours. Sysop: Clint Beers.

AskKey Xpress BBS. (415) 657-1728. AE Line, 300/1200 baud, 8-N-1, 24 hours, 20 meg system, private E-Mail, several sub-boards, online games. Apple II downloads. No Fee.

S.F. Tea Room. (415) 993-5410. 300/1200/2400 baud, 24 hours. Match Function, IBM Software (3 sections), Macintosh Software (12 sections). Sexually oriented. Sysops: Steve and Ken.

Horseracing BBS. (415) 941-1931. 24 hours, 300/1200 baud, 8-N-1. FIDO.BBS files open to all. For gamblers, horseplayers, statisticians. Everyone welcome. Using dBASE 3 file structure. All files checked before downloading. Co-op racing database. Free.

Foothill College/Physical Sciences And Engineering Technology (FHC-PSET) RBBS. (415) 941-5725. 8-N-1, 300/1200 baud, 24 hours (8 am Monday through 12 pm Friday). Educational programs offered by Foothill College Information. Files available for IBM and compatibles. Everyone welcome. Sysop: Long Tran.

The Midnight BBS. (415) 752-6172. 300/1200/2400, 8-N-1, 24 hours, 7 days. San Francisco's film center! We have over ten message bases with discussions on the world of cinema. Topics include movies in general, Star Wars / Star Trek, Reviews, Fan Mail and more! Also the new home of Track 3 BBS. We need new users, so call today!!!

Free. Sysop: Melt Cober. Co-Sysop: Robert Parks.

Timex/Sinclair 2068. (415) 681-3245. 7-bits, Even parity, full duplex, 300 baud. Free, 7:45 am to 4:30 pm. Sysop: Kevin.

Boot To The Head BBS. (415) 352-5411. 24 hours, 2400 baud. IBM downloads. Message bases. PYROTO Mountain and Trade Wars. Multi-player on-line games and much more. Sysop: Bill Massey.

Video Vision BBS. (415) 366-6409. 300/1200 baud. 8-N-1, 9:00pm to 7:00 pm Monday through Friday. 24 hours on weekends and holidays. Free registration with unlimited download. Just don't crash the system! A color bulletin board system that runs on XT turbo using Wildcat system. BBS include instant access, downloading, uploading, e-mail, on-line program, classified ads. This BBS is mainly for graphics or art, games and utility only. Extremely fast operation on 32 meg hard disk. Prospective user must read bulletin 1 or download "POLICY.TXT" and "FILELIST.ARC." Everyone is welcome. Sysop: Roel Sarceno

The CP/M Connection. (415) 866-4734. 300/1200 baud, 24 hours. This bulletin board is dedicated to the many computer users with Digital Research operating systems, such as CP/M-80, CP/M-86, Concurrent CP/M, Concurrent DOS and Echelon's ZCPR3. We hope all you CompuPro, Kaypro and Morrow users find "The CP/M Connection" a useful service in the professional community. Sysop: Mike Lipschutz.

BAHUG Bay area Heath/Zenith Users Group. (415) 365-7836. 8-N-1, Full duplex operation, 300/1200 baud, 24 hours. Supports programs in CP/M, ZDOS, MS-DOS and PC-DOS. Sysop: Ed Hayes.

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619

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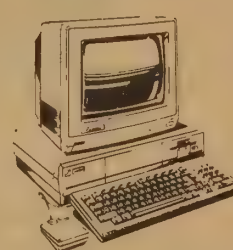
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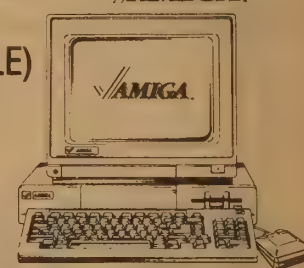
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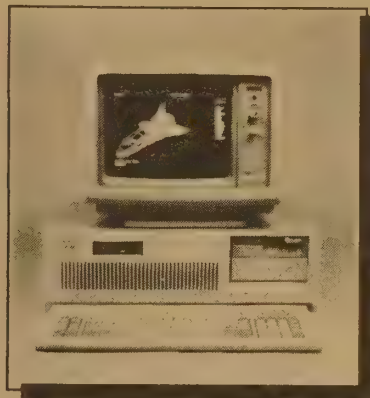
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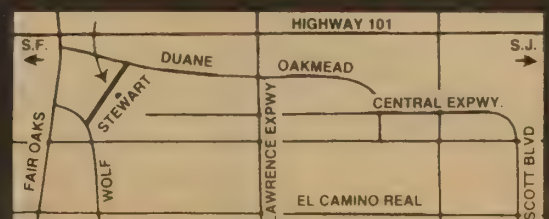
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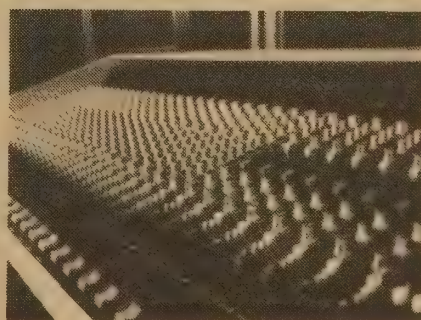


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Light Artists, LTD. (818) 985-0541. 24 hrs, 300/1200/2400 baud. Sysops: Marty and Gerald Lehtola.

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The Dugout. (818) 248-0562. Operates at 300 baud on a TI-99/4A but welcomes all systems. Includes message base, computer events, on-line adventure, xmodem d/l, and more. 6pm-11pm daily. Sysop: Jim Edwards.

The Talk Channel. (818) 506-0620 (Hollywood). (818) 507-1365 (Glendale). Both systems are 300/1200/2400 baud, 8-N-1, 24 hours, 10 lines, multi-user with private & group chat. Large UL/DL library, Data Base, 26 Public boards. California's largest BBS system. Sysop: Gary Clarkson.

LAACE (Los Angeles Atari Computer Enthusiasts). (818) 348-8644. 24 hour, 300/1200 baud, 10 meg online.

The Californian. (818) 368-7497. 300 baud, 24 hours. Color Bulletin Board System runs 24 hours a day, 7 days a week. Dedicated to the TRS-80 Color Computer, but other computers welcome. 9 sub-boards, more soon. No fees; only rule—no attempts to crash the system. Sysop: Jay B. Sanders.

Wizard of Oz RBBS. (818) 709-6978. 300/1200/2400, 24 hrs., CP/M or MS-DOS. Sysop: Mat Satuloff.

Atari Resource Magazine (ARM) (818) 446-5813. 24 hrs., 300 / 1200. Currently serving Atari and IBM computer users. Eleven message bases: general chatter, hangouts, advertise, for sale, XE Atari, ST Atari, modem, ul/dl, other BBS #s, Bible, job board. Sysops: Bob and Kim Reynolds.

RBBS (Bondwell SIG). (818) 787-0156. 300/1200 baud, CP/M and MS-DOS, 24 hours, 7 days. Everyone welcome. No time limit. Instant access to downloads. Files available for PC compatibles, Bondwell models 2 through 36. Hardware notes and tips. New product discussions. Sysop: Jon L. Bek.

Dodge City. (818) 241-4401. 24 hours, 300 baud, soon 1200. Great downloads that change every day. Sysop: The Sheriff.

The MacLodge BBS. (818) 444-9850. 8-N-1, 40 megs, 300/1200/2400. Hours M-F 3:30 pm-7 am; 24 hours on weekends and holidays. Macintosh up/downloads, plus Mac info. Mac users only please. Sysop: Dennis Cosio.

Greycastle BBS. (818) 355-7872. 300/1200 baud, 24 hours, 7 days. Apple Macintosh discussions and news, plus employment opportunities at Pasadena City College. User's Guide available. Sysop: Stan Coutant.

The Outpost RCP/M. (818) 353-8891. 300/1200 baud, 24 hours. Online games, occult and general text files, CP/M, Turbo Pascal. Sysop: Phil Hansford.

AT&T PC6300 Users' Group BBS. (818) 954-0530. 300/1200 baud, 8-N-1, 24 hours. Only SoCal BBS "officially supported" by AT&T. Sysop: Eric L. Levinson.

Infotronics Computers BBS. (818) 282-7094. 300/1200 baud, 10 am-7 pm Mon-Sat, Sunday 12-5. 20 meg online. Message bases and file transfers for Macintosh (or Atari ST with Mac emulator), IBM (or Atari ST with IBM emulator) and

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Affection Connection. (805) 527-7464, (818) 704-8588. 24 hrs., 7 days, 300/1200 baud. Multi-user BBS offering live on-line chatting, matchmaking. Sysop: Devin Woods.

Excalibur BBS. (818) 355-6969. 24 hours, 7 days, 300/1200. Sysop: White Knight.

The Computer Tele-Comm System. (818) 362-0995. 24 hours, 300/1200 baud, 8-N-1. We have meeting places, computer supplies. You can apply for credit cards. Enter our contest to win a 20 meg HardCard, 100 diskettes, \$50 solid gold piece and more. We are the first BBS to offer an 800 toll free number. Call us direct the first time, after that call us free. Sysop: Dr. Jeffrey A. Keese.

See-Your-Match. (818) 445-0691. 24 hours, 300/1200. Sysop: Mel Minami.

PC Users Group and BBS For Desktop Publishing. (818) 445-8072. 24 hours, 300/1200/2400 baud. Sysop: Mel Minami.

Fantasy Plaza BBS. (818) 840-8066. 300 baud, 24 hours, 7 days. Fantasy Plaza departs from reality with the most unique and entertaining system you've ever seen! You will be impressed! Sysop: Gregg Collins.

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Inner Realm. (818) 352-7102. 300/1200 baud, 24 hours. Atari Forum ST Chess Club. Sysop: IR ROM.

The Space Station-Shopper/BBS. (818) 286-8539. 300 baud, 8-N-1, 24 hours. Brand new, check us out. Sysop: Hugo.

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Family Radio Forum. (415) 562-5483. 300/1200/2400, N-8-1, 24 hours. Download, upload, message, conference on parenting. For teens, singles, etc. Christian TBBS for everybody. Sysop: Richard Yim (voice 415/568-6200). Also (301) 261-1423 (Annapolis, MD), (712) 246-2115 (Shenandoah, IA), (916) 481-6320 (Sacramento, CA), (201) 736-1859 (Newark, NJ), (813) 269-7957 (Okeechobee, FL).

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Softy's Apple BBS. (916) 383-5244. 300/1200 baud, 8-N-1, 24 hours. An Apple BBS with a technical theme. We have boards for IBM as well. Retail store advertising with discounts for users of this BBS. Sysop: John Hagen.

TREE. (916) 332-4930. 300/1200 baud, 24 hours. Unique tree-structured BBS lets users create their own topics and floors in virtually unlimited quantities. Blazing fast and large, this BBS is one of a kind in its software, hardware and management. Includes the multi-player game BATTLE, where users fight each other for supremacy on the high seas.

The Capitol Connection. (916) 442-0746. 300/1200 baud, 24 hours, 7 bits, even parity, 1 stop bit. The state's first policy-oriented interactive computer bulletin board. Established to test how computer communications can involve citizens in the process of governance. Participants may access over 15 "conferences" listing legislative data, information about the Legislature and the Public Utilities Commission, and other particulars; or they may enter comments and opinions regarding current regulatory issues and debates on the place of computers in civic life. Participants may also send each other electronic mail and download press releases dealing with topical events.

Dynasty BBS. (916) 685-8690. 300/1200/2400 baud, 8-N-1, 24 hours. ComputerRooters Bulletin Board. Sysop: Henry Hoover.

ASSOCIATIONS

Community Entrepreneurs Organization (CEO). Business networking group meets in nine chapters around the Bay Area. Share information on tech and non-tech business issues. Topics, brainstorming and a chance to meet others in business. Various week nights. Contact Dr. Crandall, P.O. Box 2781, San Rafael CA 94912, (415) 435-4461. Also new Bulletin Board, (415) 552-9070.

IEEE Computer Societies Committee on Artificial Intelligence and Expert Systems sponsors an open meeting the third Thursday of every month, 7-10 pm, at Foothill College. For more information please call the IEEE council office at (415) 327-6622.

Computer Professionals For Social Responsibility. P.O. Box 717, Palo Alto, CA 94301. (415) 322-3778.

Computer Professionals For Social Responsibility (East Bay). 902 Rose Ave., Piedmont, CA 94611. Contact Bruce Joffe, (415) 768-0288 days, (415) 654-5263 eves.

FOCUS-MED (Federation of Computer Users in Medicine). Open to all physicians and health professionals. Practice management consultant registry. (415) 626-4600.

FOCUS-DDS (Federation of Computer Users in Dentistry). Open to all dentists and dental professionals. Practice management consultant registry. (415) 626-4600.

ITRA Independent Technical Representative Association is an organization dedicated to helping people better understand the Personal Computer (IBM). Contact Tim Jones, 870 Market St. 609, San Francisco, CA 94102, (415) 421-4872 for meeting time and date.

MCTUG (formerly Marin County TRS-80 Users' Group). MS-DOS, CP/M and Tandy users group. Meets 7:30 pm on the first Monday of the month at the Larkspur Masonic Lodge, 1122 Magnolia Ave., Larkspur. Contact Dr. Martin Hovell, 907 Sprucewood Court, Petaluma, CA 94952, (707) 762-5740.

PRACSA (Public Remote Access Computer Standards Association) offers to clubs, schools, and user groups a Speakers Bureau. The purpose of the bureau is to act as a resource to these groups in obtaining speakers of high quality for their meetings. The volunteer speaker is provided free to the group. Contact (408) 262-5150. Meetings 4th Wednesday, 7 pm, Vadac Cafeteria, 222 Caspian Dr., Sunnyvale.

San Bruno Computer Core. Meets 7:30 pm alternate Wednesdays. Call (415) 952-9309 for address and info.

San Francisco Computer Society (Formerly the San Francisco First Osborne Group). A society for users of portable computers and/or the CP/M operating system. P.O. Box 783, San Francisco, CA 94101-0783. Meetings on fourth Thursday of the month, St. Aidan's Church, Diamond Heights and Goldmine Dr. in SF. All are invited. Dues \$10/yr.

Software Entrepreneurs' Forum, PO Box 61031, Palo Alto, CA 94306. (415) 854-7219.

PATCA (Professional & Technical Consultants Association). 1330 S. Bascom Ave., Suite D, San Jose, CA 95128. (408) 287-8703.

BAYMUG. Bay Area Micro-Processor User Group. General computer group, mostly CP/M and S100. All types of interests welcome. Celebrating our 10th year of meetings! Meetings 1441 Rolins Rd., Burlingame, CA, 1st Thursday, 7:30 p.m. Contact Victor K. Bailey, P.O. Box 248, Pleasanton, CA. 94566. (415) 462-4442.

Byte Hum. A user group for computer buffs concerned with human needs, or social activists who want to learn about computers. Let's put all that knowledge to work for social transformation! Sponsored by

the Humanist Party. Contact Rick Wall, (415) 495-6555 or (415) 337-2530.

Society for Technical Communication. STC is a professional organization dedicated to furthering the art of technical communication. The San Francisco chapter has about 200 members. Writers, artists and others interested in technical communications are welcome. Meetings 3rd Wednesday of every month, 5:30-7:00 pm; call Sarah Collings, (415) 383-9631 for info.

North Bay Users Group (NBUG). Family computer club devoted to all aspects of computing. Monthly newsletter, library, software demos, etc. Meetings at "CAVE" school, 2nd Tuesday of the month, 7:30-10 pm. Contact Gloria Hutchinson, P.O. Box 7116, Vallejo, CA 94590, or call (707) 644-9327.

Robotics Society of America. Dedicated to disseminating information about robotics, artificial intelligence and machine controls. Mailing address 36 Newell St., San Francisco, CA 94133, (415) 673-2376. San Francisco chapter meets 2nd Monday of the month, 8 pm, Homestead Savings 5757 Geary Blvd. Contact Jim Strope, (415) 552-6564. Berkeley branch meets 6:30 pm, last Wednesday of the month, Claremont Branch, Berkeley Library, Ashby and Benvenue. Contact Soren Knudson, (415) 843-2344. Sunnyvale Pongbotics meets in Sunnyvale on the De Anza College campus, Room 22, first three Wednesdays of the month, 7:30 pm. Contact Bill Lee, (408) 281-2252.

Silicon Valley Computer Society. Meetings 7:30 pm, second Wednesday of the month, Duane and Britton SE corner, Sunnyvale. Contact Dick Verna, (408) 262-2679 for information.

PicoNet. A microcomputer users group. Meets on the second Thursday of each month at 7:30 pm at CMX Corp., 2230 Martin Ave., Santa Clara, CA. Formerly specialized in CP/M software, but has broadened its scope to encompass the entire field of computer-related high technology. Extensive library of CP/M pd software; preparing PC-DOS library. Monthly meetings, periodic newsletter, BBS, C language SIG. Call (408) 374-8090 for recorded message on next meeting's topic.

MicroPsy. Users group devoted to the application of microcomputers in the psychological fields. Meetings first Saturday of the month, noon. Call for information: Martin Schaaf, M.S., (415) 454-6761.

C Group of Northern California. Forming C programmer support group. Group's function will be to exchange information, discuss programming techniques and problems, etc. Anticipate monthly meetings at rotating locations. First meeting to be held 7:30 pm, Tuesday evening, November 4th, in Mill Valley. Call (415) 383-7006, or contact Ben T. Choate III, P.O. Box 1533, Mill Valley, CA 94942.

BADGE-Bay Area Developers Group. Meets third Thursday of every month, 7:30 pm, at Stanford University Building 200, Room 002. Contact Tom Rokicki or Bob Alverson, (415) 326-5312 for information.

California Genealogical Society Computer Interest Group. Meets second Saturday of the month, 300 Brannan St., 4th Floor, San Francisco. Call W.R. Shepard, (415) 989-5441 for information.

Hebrew Users Group. Supporting the use of Hebrew and Hebrew-based languages on computers. Contact Jack Love, (415) 845-7793 (Berkeley Hill).

Gay/Lesbian PC Users Group. We meet on the second Sunday of each month. This is the group where we show our hardware and software and share our knowledge. All levels of users are welcome. Meeting place is the MCC San Francisco, 150 Eureka Street. For more

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Gender Changer	\$5
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XT Slide-In Case	27
XT (AT lookalike) Case	40
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info, contact Jim at P.O. Box 42429, San Francisco, CA 94101, (415) 334-9761.

ComputerRooters. Computer-Rooters' purpose is to foster the science of genealogy through educational and research programs. Among other things we show how you can use your computer to further genealogical research. Our library of computer diskettes ranges from useful public utility programs to shareware genealogy programs and is constantly being expanded. Contact Maxine Roberts at P.O. Box 161693, Sacramento, CA 95816. BBS: (916) 685-8690 (Dynasty BBS). 300/1200/2400 baud, 8-N-1, 24 hours.

NATIONAL/INTERNATIONAL

Network Users Association. 2111 Eisenhower Ave., Suite 400, Alexandria, VA 22314. (800) 638-8510 or (703) 683-8500.

TPUG World's largest Commodore Users Group. \$25 annual membership entitles you to access to library of public domain software for C-64, VIC 20, PET, CBM, SuperPET, B-128. Coming soon Plus 4, C-16, C-128. New disks added each month. Also TPUG Magazine (10 per year), free access to TPUG's Bulletin Board Modem System, 24 hours, 7 days. TPUG Inc., 5300 Young St., Willowdale, Ontario, Canada M2N5R2, (416) 733-2933.

Apple Co-op. 290 SW 43rd, Renton, WA 98055. (201) 251-5222.

JUG (Jefferson State Computer Users Group). Many SIGs, newsletter. Dues \$5.00 year, some SIGs additional. Contact JUG, P.O. Box 457, Gold Hill, OR 97525-0457.

There is a copying and mailing fee of \$15 per diskette. Please specify which computer and disk drive you have. Contact Folklife Terminal Club, Box 555-DN, Co-op City Station, Bronx, NY 10475.

MicroPro Users Group of America. National group with over 200 members worldwide. Dedicated to supporting MicroPro products, especially WordStar and InfoStar, for any hardware. c/o Procyon Associates, 140 Riverside Drive, New York, NY 10024. (212) 595-4811.

Golden Apple Club, Apple II and Macintosh. Contact Stefano Minotto, Golden Apple Club, Riviera Tiso da Camposanpiero, 26, 35100 Padua, Italy.

F.O.G. 15,000 member group supporting all CP/M users. Dues of \$24.00/yr. include 60-80 pg. FOGHORN monthly's access to 270+ disk library, 40+ RCP/M systems, and back issues; and a technical support hotline. All meetings conducted by 140+ local groups. Gale P. Rhoades, P.O. Box 3474, Daly City, CA 94015, (415) 755-2000.

Getec s.r.l. Contact Silvio Esengrini, Via dei Guarneri Nr. 24, 20141 Milan, Italy. Phone: 39/2/5696502, 39/21 5694185.

Italtel S.p.a. Contact Michelangelo Sala, C.Na, Castelletto, 20090 Settimo Milanese, Milan, Italy. Phone 39-2-4388-4288.

PLUG (The Plus/4 Users' Group). Dedicated solely to support of the Commodore Plus/4. No regular meetings, 200 members in US, Canada, Mexico, and Europe. Newsletter, public domain software library. P.O. Box 1001, Monterey, CA 93942.

KAPPA (Memphis Kaypro Users Group). Meetings at 2 pm, 1st Saturday of the month, Room 2, Jennings Hall. Contact Hugh Lamar, 5983 Macon Cove, Memphis, TN. (901) 377-4140.

The AppleWorks Users Group (TAWUG). c/o Regional Rep, 27421 Berenda Way, Hayward, CA 94544, (415) 887-7499.

FORTH Interest Group, International Office. P.O. Box 8231, San Jose, CA 95155. For further information call (408) 277-0668.

Apricot User Group (APRICUG). Box 98, Malverne, NY 11565.

Spellbinder Users' Group has an international newsletter with useful macros written by members, advice on new applications, news, and word-processing problem solving. All experience levels. California members welcome. Write P.O. Box 14, Newark, Notts, England NG24 4TP; telephone (0636) 77313; telecom Gold/Dialcom Mailbox 72: MAG95610.

National TeleVideo Users Group. Meets 7:30 pm, 3rd Thursday, 1170 Morse Ave., Sunnyvale. P.O. Box 22007, San Francisco, CA 94122. Call for info—David, (415) 753-1552.

Apple Fontrix Club. Monthly newsletter. P.O. Box 29857, Thornton, CO 80229-0857.

N.A.B.V.I.C.U. - The National Association of Blind and Visually Impaired Computer Users. The purpose of this group is to gather information that will assist the blind or visually impaired person in utilizing the enormous potential of computers. It supports **CompuHelp**, a menu driven database-bulletin board programmed for use by the blind and visually impaired. It is available 24 hours a day, 7-days a week, 300/1200 baud, 8 or 7 bits, even or no parity, 1 stop bit. (916) 786-3923. Compuhelp is also available on disks. For more info, contact Otto C. Hailings, Chief Executive Officer, Sysop, at P.O. Box 1352, Roseville, CA 95661-1352. (916) 783-0364.

28 Barbary Lane. Meets at 121 13th Ave. East, Seattle, WA, Fridays 8:00 pm. Contact A. Madrigal, (206) 323-2828. BBS: (206) 323-2828.

MICROenvironment: Micro-environmental Information Consortium For Researchers Overseas. World Headquarters, 712 Avery Rd. W. Winlock, Washington 98596, USA. Washington phone: (206) 262-0159. California phone: (415) 524-9309. Micro on MCI mail, ECOMET & WELL TELEX number 6502928733 via WUI.

American Computer Users Temporarily in Europe (A.C.U.T.E.). Going overseas or already there? We are a users group dedicated to helping you better adjust and understand how to survive in the overseas environment with your computer system. We show you how to find things you will need at reduced member prices. We also consult firms and developers on how to make software more acceptable to the international market. We do foreign language translation of computer software and provide referral services. Further information available by mail: A.C.U.T.E., Postfach 4, D-8818 Lehrberg, West Germany.

Folklife Terminal Club. Almost Free Software. An international Commodore computer users group, with members in more than twelve countries, has made its software library available to other user groups and individuals. The club has issued new catalogs of software from its archives which contain more than 6,000 public domain programs. The programs are stored on diskettes and are usable in various configurations of PET, CBM, VIC, C-64, PLUS 4 and C-128 computers. The software itself is free. The first diskette that should be ordered is the new "CATALOG DISK" which contains an automatic disk cataloging program, a listing of all the available programs, complete instructions and Associate Membership in the club.

USER GROUPS

APL

APLBUG (APL Bay Area Users' Group) has monthly meetings and a newsletter for people interested in APL (A Programming Language). It meets the third Monday of each month at 7:30 pm in the offices of I.P. Sharp Associates, 220 California Avenue, Palo Alto. Annual dues are \$15. Contact Curtis Jones, (408) 292-4060, for information.

AT&T

Bay Area AT&T PC6300 Users' Group. Demos, technical help and more. Meeting time and location vary. Contact Joe Mahoney (415) 586-8376 or Maurice Aranda, (415) 972-5436.

ACTRIX

ACTRIX Computer Enthusiast Society. Membership (\$20/yr) provides public domain software, group rates, discounts for owners of Actrix/Access Matrix microcomputers. Meetings at Sunnyvale Community Center, last Wednesday of the month, 7 pm. Contact K. Edward Lynch, 1405 Phelps Ave. #29, San Jose 95117, (408) 756-5104, for more information.

ADAM

Coleco Adam Users Group. For info send SASE to: CAUG, 2316 Stuart St., Berkeley, CA 94705. Voice (415) 549-3437, data (415) 549-3378.

South Bay ADAM Users' Group. Now forming a users' group exclusively for the ADAM enthusiast in the south bay area. Call Steve for more info at (408) 253-4190.

East Bay ADAM Group. Forming an ADAM users group in the East Bay area. Call Tom for more information — (415) 886-2884, or write 6097 Slopeview Ct., Castro Valley, CA 94552.

AMIGA

First Amiga User Group. We offer demonstrations of software and hardware, a public domain library, and general user help at our monthly meetings, which are held on the first Tuesday of each month in Belmont, CA. Meeting address

1300 Fifth Ave., Belmont, CA, 94070, 7 pm, first Tuesday of the month. Contact Tim Avery/Kayvan Pejooch, (415) 595-5452.

First Amiga User Group the South Bay. End-users, enthusiasts, developers and programmers all welcome. Meetings 2nd Fridays, library, 40 N. Milpitas Blvd., Milpitas, 7-9 pm. Contact Jim Thomas, P.O. 1863, Fremont, CA 94538, (415) 651-0201. BBS (415) 659-9169.

ACCESS. The Amiga and Commodore Computer Enthusiast Society (ACCESS) holds its meetings on the 3rd Wednesday of the month in Room 107 of the Chabot Building in Hacienda Business Park, Pleasanton, CA. Contact Skip Perkins, (415) 443-4778 for information.

Sacramento Amiga Computer Club (SACC). Meets the second Wednesday of each month at the Sacramento Municipal Utility District (SMUD) auditorium, 6201 S. St. just off Hwy 50 at the 59th or 65th St. exit, 7 pm. For more information call George Leone, president, at (916) 944-7400 or write to SACC, P.O. Box 19784, Sacramento CA 95819-0784.

Amiga East Bay Info Exchange (AEBIE). P.O. Box 485, Pinole, CA 94564. For end users in the West County, North and/or East Bay area.

AD-Amiga Developers Group. Meets the last Monday of each month at 6 pm, 2618 Telegraph Ave., Berkeley, (415) 845-4814.

AEBUG-Amiga East Bay User Group. The Original Users Group meets the second Wednesday of each month at 2618 Telegraph Ave., Berkeley, 7 pm. (415) 845-4814 for information; BBS (415) 845-4812.

AUGment, the Amiga User's Group of Silicon Valley. P.O. Box 1863, Fremont, CA 94538-0186. Contact: Jim Thomas. Information line: (415) 651-1160. BBS: (415) 659-9169. Meetings every second Friday at Hewlett-Packard, 5301 Stevens Creek Blvd., Cupertino.

Amiga Addicts Anonymous. Meets the third Monday of each month, 7:30 pm, at 1331 Concord Ave., Concord (CCC Water District) CA. For more info, contact Jeff Chase, president, P.O. Box 4669, Walnut Creek, CA 94596. (415) 933-0217. BBS: (415) 283-5469.

AUM-Amiga Users of Marin. Meets the third Wednesday of each month, 7:30, at the College of Marin, Science Center, #190, Kentfield, CA. For more info, contact Bob Galvan, 119 Willow, Corte Madera, CA 94925. (415) 924-5384.

Stockton - Modesto Amiga Users Group (SMAUG). Meets last Wednesday of each month at 3525 Benjamin Holt Drive, Central Lounge, Willow Glen Apts., Stockton, 7:30pm. For information call Rainer Kummerle. (209) 957-8620.

APPLE

San Francisco Apple Core Special Interest Groups, BBS, large public domain software library, newsletter, help network. For meeting and current events information, call (415) 771-5830. Recorded message 24 hours, live person sometimes during business hours. Leave name and address to receive information. Draconet BBS (415) 781-6645 modem line.

The AppleWorks Users Group. c/o TAWUG Regional Rep., 27421 Berenda Way, Hayward, CA 94544.

SPCA (Society For The Prevention of Cruelty To Apples) Apple user/interest group. Features: Monthly meeting with newsletter, raffle and door prize hard / software, demonstrations, lectures, discussions, \$20 per year, pro-rated after June. Meetings last Wednesday of month, 7:30 pm. Contact Paul Meyerholtz for info (415) 490-8209.

Association of Apple 32 Users Macintosh, Lisa. An association of "knowledge workers" who wish to share information on products, applications, and events. User-developed, non-copyrighted software, SIGS, newsletter. P.O. Box 634, Santa Clara, CA 95052.

San Leandro Apple Eaters Users Group. Apple II users group meets the first Thursday of each month at San Leandro High School (room 213). New owners to experienced users welcome: Appleworks, education, hardware/software, telecommunications. Call Open Campus BBS area 11 (415-895-0135) or voice (415-782-9250) for more information.

Pen-Apple (Peninsula Apple Users Group) Meetings 2nd Thursday each month at 7:30 pm, Ampex Corporation cafeteria, 421 Broadway, Redwood City. Contact Pierre Testart, (415) 952-9309.

Diablo Valley Apple Users. Apple II family users and Macintosh users. Special Interest Groups meet monthly. Featuring a library of public domain software collection and our own Club's DOM's, monthly newsletter, group buys of hardware and software as well as monthly demos of new products. Meetings held on 1st and 3rd Friday each month at 7 pm at the Willow Creek Center, 1026 Mohr Lane in Concord. Contact Merle Zmak, president, P.O. Box 5031 Concord, CA 94524, or call (415) 672-7596 for additional information.

South Peninsula Apple Computer Enthusiasts (c/o David Harris, P.O. Box 1257, Palo Alto, CA 94302) meets near the Varian Credit Union, Bldg. 4C, 611 Hansen Way, Palo Alto, at 7:30 pm on the first Tuesday of every month to exchange information about available hardware, software, events, publications, and methods on Apples, and to encourage collaboration on projects. Call (415) 856-9126 answering machine takes 30-second messages.

Roseville Apple Core. Discover your Apple's Core! We meet on the second Wednesday and fourth Tuesday of each month, 7:00, at SMUD Foothills Bldg., Training Room D, at Don Julio and Elkhorn. There are additional SIG meetings for AppleWorks, BASIC, Telcom and Macintosh. We also feature a monthly bulletin, large public domain library, and new member's disk, all for just \$12 yearly membership. C'mon out and bring a friend. For more info, contact Bruce McLeod, president, P.O. Box 1377, Roseville, CA 94551. (916) 723-6422.

Apple Sac. (Sacramento) Meetings on first Wednesday and third Tuesday every month at Madison School, 5241 Harrison St. (corner Harrison and Madison Ave. 1/4 mile west of 180 on Madison Ave.), 7:30 pm. Contact Ray Beam, president, P.O. Box 254645, Sacramento, CA 95825, (916) 448-6115 for more information.

Stanislaus Apple Group. You're invited! Stanislaus Apple Group meets 2nd Tuesday each month, 7 pm, Room 124 Ag Bldg, Modesto JC, main campus. We support Apple II and compatibles, Apple III, Mac, Lisa. Newsletter, BBS (209-529-3202), extensive PD software library. More info call (209) 523-7289 (eves).

Santa Cruz Apple User's Group meets at Cabrillo College, Aptos, ILC building, 1:30 pm, second Sunday of the month. For information contact Tim Ruckle, president, (408) 462-3154.

Apple Gardens. New Apple II users group. Share info, programs, group purchases. Brand name disk, new products, software demos and evaluations. Call Tom Turley at (415) 468-4045.

Apple P.I.E. Meets at Lynbrook High School, Room 30, 1280 Johnson Ave., San Jose, 4th Thursdays, 7:30 pm. Contact George Ingalls, P.O. Box 2185, Santa Clara, CA 95055.

FREE USER GROUP/BBS LISTING

MicroTimes is a free computer magazine with a current monthly circulation of 140,000 copies per month in Northern and Southern California. We offer a free listing service to user groups, bulletin boards and computer associations. Let us hear from you. Use this coupon for your listing, and feel free to include additional information for our monthly user group column. Please send us your listing by the first of the month preceding the month in which you want your first listing to run.

We will run your listing as space permits until you tell us to stop, or until it's obviously obsolete. Please keep us posted on changes as they occur.

USER GROUP

Group name _____

Meeting address _____

Meeting time and day _____

Contact name _____

Address _____

Phone number _____

BBS

Name _____

Number _____

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USE SEPARATE SHEET FOR DESCRIPTION

Mail to: **MicroTimes User Group Listings**
5951 Canning St., Oakland, CA 94609

WE APPEAL TO THE CONGRESS OF THE UNITED STATES, PRESIDENT REAGAN, THE DIET OF JAPAN, PRIME MINISTER NAKASONE AND THE NEW PRESIDENT OF TOSHIBA, JAPAN!

We commend the swift action of the Senate of the United States by a vote of 98-2 to punish Toshiba for selling technology to the Soviet Union. But we respectfully suggest that all punishments should be corrective, constructive, compassionate, compensatory, and carefully designed to punish and deter the wrongdoer and justly compensate the victim. No doubt that Toshiba's sale of advanced computer technology harmed the people of the free world. The ban of Toshiba state-of-the-art technology and products will harm us—the people of the United States. The service, warranty, support and availability of parts to the existing Toshiba equipment in the U.S. will no doubt suffer.

LET'S BE PRACTICAL AND COMPASSIONATE!

We suggest the following punishment: Toshiba should immediately establish a charitable trust fund with an initial contribution of \$1.7 billion and contribute at least 75% of profits from its U.S. operations during the first year, 50% during the second year, 25% during the third year, 15% during the fourth year, and 10% during the fifth year. The suggested trust fund should be managed by trustees appointed by the Congress and the President of the United States to spend the money to:

- Help the hungry, poor, handicapped, homeless, and the underprivileged people of the U.S. and the free world.
- Help free Russian Jews from persecution in the U.S.S.R.
- Help Afghan refugees in Pakistan.
- Help the families/survivors of the Union Carbide disaster in India.
- Fight drugs, alcohol, cancer and other diseases.
- Help all charitable and humanitarian organizations in the U.S. and the free world.
- Education and medical care for poor and indigent persons, to name a few.

The above is not intended to be a comprehensive, all inclusive list of where Toshiba's contribution should be spent. These are just a few examples for reference purposes only.

The funds should be paid to the most needy—rather than by allocation or appropriation. If our readers agree with any of the above suggestions, please write to your **Congressperson, Senator, President of the United States and President of Toshiba, Japan.**

We appeal to the President of Toshiba to make a good faith gesture and immediately establish the \$1.7 billion charitable trust fund without waiting for Congress and the President to decide one way or the other. \$1.7 billion is not even a drop in the ocean of Toshiba profits from over \$85,000,000,000 (that's \$85 billion) sales! You owe it to the people of the free world! It's time to act! And act swiftly!! Please do not procrastinate!

JUSTICE DELAYED IS JUSTICE DENIED!

We respect Toshiba's statement of their position recently published in the national media. However, explanations, regrets, resignations, and apologies **alone** cannot undo the harm that has been done to the free world.

Note to our readers: Thank you for the very encouraging response to this ad. We have sent Facsimilies to the President and the Chairman of Toshiba in Japan and have not heard from them as of press time.

This is a public service message paid for by the PC Upgraders, Inc. and San Leandro Computers, Inc.

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ATUNC-Apple Three Users of Northern California. Explanations, demos, large public domain library. Mailing address: P.O. Box 1528, Mill Valley, CA 94942. On Apex and Draconet BBSs.

Apple East Bay Users. Meets the first Tuesday of each month at 2618 Telegraph Avenue, Berkeley, at 7 pm. (415) 845-4814 for information; BBS (415) 845-4812.

Apple Pickers of Sonoma County. Meets second Saturday of each month, 1735 Shuhaw Hall, SRJC, 1 pm. Call for sample newsletter: Mary Lou Mayes, (707) 763-8322.

TVAUG-Tri Valley Apple User's Group. Meets on the first Thursday of each month, 6:30 at 7079 Commerce Circle, Pleasanton, near the intersection of Hwys. 580 and 680, to discuss our Apple IIs. A special beginners group meets on the second Thursday of each month. For more info, contact Dan Baisley or Esther Farnstrom, 9814 Davona Drive, San Ramon, CA 94583. (415) 828-6237 or (415) 829-3672.

Apple Blossom User Group. Meets 1st and 3rd Wednesday of each month at 7 pm at 290 International Circle, San Jose CA 95119. All Apple users welcome. Apple II, II+, IIC, IIE, III and Macintosh. No matter which Apple you have we have a group for you. Contact Ray Enochs, P.O. Box 53323, San Jose CA 95153. (408) 723-9141. ABUG BBS (408) 227-3993.

Microcomputer Users Of Santa Cruz (MUSC). A FOG affiliate, membership open to all persons interested in MS-DOS or CP/M computers. Meetings the second Tuesday of each month. Wheelchair access. Guest speakers, demonstrations, MS-DOS and CP/M software libraries. Info: Barney Bricmont, 1920 Maciel Avenue, Santa Cruz, CA 94062. (408) 476-0504.

ASHTON-TATE Framework/Editor Bay Area Users Group (FREDBUG) Purpose of the group is to share programming and applications techniques under FRAMEWORK for the business and technical professional. Call for info: Rudi Wiedemann, (408) 730-4159.

San Francisco dBase User Group For advanced users and programmers. Meets once per month. Membership required for attendance. Contact Frank A. De Coster, 1100 Gough St., San Francisco, CA 94109, (415) 474-6693.

East Bay dBASE Users Group. Meets 3rd Sunday, 1 pm. Call Darrell Bross (415)873-7522 or Alexandra Saur (415)893-7637 for meeting address.

dBase II/III SIG of SF PC Users Group meets third Monday of each month, 7-8 pm, Fort Mason, San Francisco. Contact Ron Freshman, (415) 459-6613.

DBDVLPRS (dBaseIII Program Developers). Call for information on meeting time and location: Gil Orlik, (415) 931-0377, 2240 Buchanan St., SF 94115.

ATARI ABACUS (Atari Bay Area Computer Users Society) All ATARI users or prospective users are welcome. Membership (\$15/year) provides public domain software, low cost blank disks, monthly newsletter, group prices on hardware and software, help from experts, low cost classes for beginners. Meetings first Saturday of the month, Fort Mason, SF Room 300, Bldg. C, 10 am-2 pm. Contact Bill Zinn, P.O. Box 1823, Mill Valley, CA 94941. (415) 753-8483.

A.C.M.E. (Atari Computer Marin Enthusiasts) Meets monthly in Marin, third Thursday evening monthly from 7 pm on. Gallinas School, 177 N. San Pedro Rd., San Rafael. Contact Bruce Frank, (415) 435-6020, P.O. Box 222, Tiburon, CA 94920.

Diablo Valley Atari Computer Enthusiasts (D.A.C.E.) Meets the first Thursday of the month at 7:00pm at the Contra Costa Water District Building conference room in Concord. Meetings free. \$20 yearly membership comes with newsletter, discounts, raffle tickets. For information contact Mike at (415) 798-6565.

Bay Area Atari Users Group We have a 24-hour 300/1200 baud BBS at (408) 249-7722. Meetings at Bracher School Cafeteria, corner of Bowers and Chromite, Santa Clara, CA, first Monday of the month. Contact Frank Nagle, P.O. Box 50459, Palo Alto, CA 94303, (415) 791-5461 for more info.

San Leandro Computer Club Although open to all computer users, this group is primarily oriented to Atari computer owners. Our club is considered one of the best in the country, worthy of consideration by both novices and experts. Meetings 1st Tuesday of the month at San Leandro Community Library, 300 Estudillo Ave., San Leandro, CA. Contact Phil Mitchell, P.O. Box 1525, San Leandro, CA 94577-0152 for more info, or call (415) 351-2208.

COAST User Group (California Original Atari ST). Public domain disks, MIDI, support, newsletter, help for the Atari ST line of computers. Advice and programs not to miss. Meetings on the 3rd Wednesday of each month, at The Berkeley Conference Center, 2105 Bancroft in Berkeley, CA, 7:00 pm, 6:30 for beginners. \$1.00 admission for non-members. EaST COAST meets 2nd Tuesday of the month at 1015 Esther Drive, Pleasant Hill, 7:30 pm. Members only. Dues \$30.00 yr. Contact Chuck Thorp, president, 1015 Esther Drive, Pleasant Hill, CA 94523, (415) 945-1949 for information.

Redwood Atari Group (R.A.G.) Meets 4th Saturday, 1-4 pm, at Coddington Meeting Room, 1100-B Coddington Center, Santa Rosa. Contact Mikkel Lawrence, (707)585-3949, 21 Creekwood Sq., Rohnert Park 94928.

E.S.C.A.P.E. (Enthusiastic Santa Cruz Atari Programmers Exchange). Full software and hardware support of both the ST and 8-bit computers. For information call (408) 688-6538 or Jim Montoya (408) 423-5190 or write, 76 Rancho Del Mar Shopping Center, Aptos, CA 95003.

ATTACHE Attache UNL Otrona may be dead, but the Attache Users News Letter Lives ON!! Contact Jim Ayers, 301 Poplar St., Mill Valley, CA 94941. (415) 388-4805. Meetings 7:30 pm, 2nd Wednesday.

First Attache User Group News. Support, news, and co-operation for users of Otrona Attache and 2001 portable computers. Since '82. Contact Charles Raisch, 1827 Haight St. Suite 16, San Francisco, CA 94117, (415) 221-3415.

AUTOCAD AutoCAD Users Group. Call Gen Katz (415) 530-8870 for information about future meetings.

AutoCAD User Group. Call Volker Ackermann, (415) 485-0958 for information.

AutoCAD Users Group of Santa Cruz. Meetings held at Citicorp conference room, 806 Ocean Street, Santa Cruz, 7-9 pm, 1st and 3rd Tuesday of the month. Call (408) 462-0448 for information.

BASIS Bay BUG Basis 108 Users meet every first Friday of the month at College of Alameda Computer Room, 7:30 pm. Contact Roger Bernhard, 536 Mission, San Francisco or call (415) 221-0262 for more information.

BONDWELL Bondwell Users Unite! Trying to start group, need your help. All levels welcome. Meeting address 405 Stierlin Rd. #17, Mountain View. Time and date to be announced. Call Tom Gatlin at (415) 961-0450 for more information.

BPI Bay Area BPI Users Group meets the fourth Tuesday of each month. For more information contact Mitch Paioff, 5097 Tisdale Way, San Jose, CA 95130, (408) 866-4310.

CANNON Cannon AS 100. Anyone who owns a Cannon AS-100 computer and is interested in forming a group to share problems and solutions write HTF-4111 Hilltop, Vacaville, CA 95688.

CASIO Casio Research Project. Discussion and collaboration; creation of plug-in expansion board using VLSI chip. Share programs. Meetings TBA. Contact Julius M. Zebrowski, (415) 969-9458.

COMMODORE San Francisco Commodore Users Group (SFCUG). Meets the last Thursday of each month at the Embarcadero YMCA near Steuart and Howard. All Commodore computer enthusiasts welcome. PD library, classes, in-depth demonstration, eeprom programmer, BBS-ET (415) 861-4485. Contact Malcolm Lowe, (415) 832-1539.

Diablo Valley Commodore Users Group Meetings Contra Costa Water District Auditorium, 1331 Concord Ave., Concord, CA, second Thursday of month at 7:30 pm. Write DVCUG, P.O. Box 27155, Concord, CA 94527, or call (415) 838-2838 for more info.

Napa Valley Commodore Computer Club Meets first and third Mondays, 7:30 pm, at Northwood Elementary School, 2214 Berk St., Napa. Take Redwood Road to Dover St. to Berk St. Contact President Dick Bull (707) 257-3773 or vice-president Roger Pruyum (707) 253-1690 for more info.

Lake County Commodore Users Group Contact Al Reuss, P.O. Box 388, Clearlake, CA 95422.

Marin Commodore Club Meets at Redwood High School, Corte Madera. Visitors welcome. Contact Elmer Johnson for information: 665 Las Colindas, San Rafael, (415) 479-0426.

Peninsula Commodore User Group Public domain library, demonstrations, user help, newsletter. Membership is \$25 per year. Non-members pay \$2 at door. Meetings are 3rd Tuesday of each month. Meeting place is the Church of the Good Shepherd Hall, 1300 5th Ave., Belmont (across from city hall). For more info call (415) 595-5452 between 9 am and 6 pm, or call our BBS at the same number after 6 pm.

The Commodore Connection User Group (CCUG) Meetings at Homestead Savings, 14th and "A" St., Antioch, 3rd Monday of the month, 7:30 pm. Contact Walt Moxley, 2229 Santa Maria Drive, Pittsburg, CA 94565. (415) 458-3318. BBS: (415) 458-1005. Commodore only, 24 hours, 300/1200.

Commodore User's Group of Hayward. The CUG of Hayward meets the first Saturday of each month from 3 to 5 pm at the Commodore Computer Center located at 22521 2nd St., Hayward. Call (415) 886-1916 evenings between 5 - 8 pm or (415) 537-1323 days between 10 am and 5 pm.

NBUG (North Bay Users Group). Contact Jim Stephens, president, 124 Delgado St., Vallejo, CA 94591, or write P.O. Box 7116, Vallejo, CA 94590.

Santa Rosa Commodore Users Group. Walter Saures, President, 333 East Robles Ave., Santa Rosa, CA 95407-7921. (707) 584-7009. Information line, (707) 526-6464 SRCUG-BBS.

Family Roots Searchers. Using Commodore SX-64 computer, Dynax DX-15, PractCalc II, Word Pro 3 Plus, Family Tree. Meetings by appointment only. Vera Ross, Atchison Village, Richmond, CA 94801-2942, (415) 235-8716.

PLUG (The Plus/4 Users' Group). Dedicated solely to support of the Commodore Plus/4. No regular meetings, 200 members in US, Canada, Mexico, and Europe. Newsletter, public domain software library. P.O. Box 1001, Monterey, CA 93942.

Silicon Valley Commodore Computer Club. Meets 4th Wednesdays, H.P. 5301 Stevens Creek Blvd. at Lawrence, 7 pm. Contact Roger Weiss, (408) 942-2442.

ACCESS. The Amiga and Commodore Computer Enthusiasts Society (ACCESS) holds its meetings on the 3rd Wednesday of the month in Room 107 of the Chabot Building in Hacienda Business Park, Pleasanton, CA. Contact Skip Perkins, (415) 443-4778 for information.

C.O.W. Commodore Owners Workshop. Meets at the San Bruno Rec Center (in San Bruno Park) the third Thursday of every month from 7-10 pm. Machines welcome. We have a huge PD library that users can check out. We usually have demos each meeting; we have BASIC programming classes and help each other along. For further information call the San Bruno Parks and Rec at (415) 588-1201.

Fairfield Commodore User Group. Meetings Solano County Education Bldg., 1st and 3rd Mondays. Contact Ben Harris, 1182 Dana Dr. Fairfield 94533, (707) 422-1669.

FUNHUG — Fremont, Union City, Newark, Hayward Users Group. A user organized, user operated, user group not affiliated with any computer or software manufacturer or distributor. We have a Commodore and an IBM section in our group. Group meets every third Wednesday at 7:30 at 5445 Central Ave., Suite 4, Newark.

64/MORE, San Jose Chapter. Meets the first Sunday of each month from 6 pm to 9 pm at Mercury Savings and Loan, 859 Blossom Hill Road, San Jose. For further information call (408) 945-4327 or Night Owl BBS (408) 253-2295.

64/MORE, North Valley Chapter. Meets the second Saturday of each month from 10 am to noon at the Milpitas Public Library, 40 Milpitas Boulevard, Milpitas. For information call (408) 945-4327 or Night Owl BBS (408) 253-2295.

64/MORE, Cupertino Chapter. Meets the third Saturday of each month from 3 pm to 6 pm at the Saratoga Public Library, 13650 Saratoga Avenue, Saratoga. For further information call (408) 945-4327 or Night Owl BBS (408) 253-2295.

64/MORE, Campbell Chapter. Meets the fourth Tuesday of each month from 6:30 pm to 9:30 pm at the Santa Clara County Public Health Building, 2220 Moorpark Avenue, San Jose. For further information call (408) 945-4327 or Night Owl BBS (408) 253-2295.

Microcomputer Users Of Santa Cruz (MUSC). A FOG affiliate, membership open to all persons interested in MS-DOS or CP/M computers. Meetings the second Tuesday of each month. Wheelchair access. Guest speakers, demonstrations, MS-DOS and CP/M software libraries. Info: Barney Bricmont, 1920 Maciel Avenue, Santa Cruz, CA 94062. (408) 476-0504.

COMPAD SF Compaq Users Group is now a SIG of the SF IBM PC Users Group. For information please call D. Blow at (415) 221-2764.

COMPUPRO Berkeley Compupro. Berkeley Compupro User Group meets 4th Thursday every other month. Company Reps attend meetings. For more information call Barry at (415) 554-4733.

Hayward Compupro Users Group. Meets 3rd Saturday of every month in Hayward, California. Sponsored by Automation Sciences International. Meetings held at 22532 Foothill Blvd., Hayward, between 'B' and 'A' Streets. You may call (voice) (415) 886-2980 or (modem) (415) 886-4734. The CP/M Connection for further information." Topics include: hardware & software problem identification and solution, upgrades, new products, CP/M, CCP/M, ZCPR and getting the most out of application software. Other users and interested parties are welcome. Group founder: Michael D. Lipshutz.

DATAFLEX Dataflex User Group. For more information call Alex at (415) 433-7944.

DEC Silicon Valley DEC PC Users Group. Meets 2nd Wednesdays 7-9 pm at Kierulff Systems 1180 Murphy Avenue, San Jose. Contact Gary Catalano (408) 275-1133.

DYNABYTE Dynabyte Announcing M.A.D., Mutual Assistance, Dynabytters (Dinosaurians?) For owners of this orphan Z80 S100 machine. Call Woody McPheeters, (415) 548-3126 or write 3128 King St., Berkeley, CA 94703.

EAGLE Eagle Computer Users Group. P.O. Box 3381, Saratoga, CA 95070, (408) 972-1965. General meetings are held on the second Saturday of the month at Tandem Computer H.R. Training Room at 10300 N. Tantau Ave., Cupertino, from 9:30 am to 12:00 noon.

Screaming Eagles User Group For 8 and 16 bit Eagles. Quarterly newsletter, public domain disk. On CompuServe (CLUB) Sec. 3. \$10/year individual, \$20/year business. 101 Parnassus #1, San Francisco, CA 94117. (Voice) (415) 661-4362.

Eagle Computer Users Group — ECUG. Meets 2nd Mondays, 7 pm, 6132—66th Ave. (Southgate Library), Sacramento. Contact W. Jud Boies, P.O. Box 163506, Sacramento, CA 95816, (916) 443-1060.

ENABLE ENABLE Users' Group. Supporting users of Enable, the integrated software package. Monthly meetings in San Francisco (contact Evan Christensen, 415/469-1863) and Walnut Creek (contact Sandi Baker, 415/944-0426).

EPSON Bay Area Epson Salts 125 Del Centro, Millbrae, CA 94030, (415) 697-0567.

Epson Users of San Francisco Bay Area Epson group has nationally circulated newsletter Valnews: 400 members mostly QX-10 owners, growing software library. Meetings focus on mutual support. Mainly Valdocks and other applications. Meetings first Thursdays 7 p.m. Fort Mason Center, Bldg. C, Room 205, San Francisco. Contact Alan Magary, 904 Irving St., Suite 271, San Francisco CA 94122, (415) 661-9270.

Napa Valley Epson Users Group 1307 Hestia Way, Napa, CA 94558, (707) 253-8727.

FORTH FORTH Interest Group, Berkeley Chapter. Meets 2nd Saturday of the month at 1 pm, 10 Evans Hall, UC Berkeley. Contact Mike Perry, (415) 644-3421.

FORTH Interest Group, Monterey/Salinas Chapter. Contact Bud Devins, (408) 633-3253.

FORTH Interest Group, Sacramento Chapter. Meets 2nd Tuesday of the month, 7 pm, 170B 59th St., Room C, Contact Tom Ghormley (916) 444-7775.

FORTH Interest Group, Bay Area Chapter. Meets 4th Saturday of the month, 10 am advanced, 1 pm beginning, at ABC Christian School Auditorium, Dartmouth and San Carlos Ave., San Carlos (408) 277-0668.

FORTH Interest Group, Stockton chapter. Contact Doug Dillon (209) 931-2448.

GAVILAN Gavilan User Group. Meets 2nd Thursday, 7 pm, Lockheed Bldg 162, Sunnyvale, CA. Contact R.W. Brown, 780 Manx Ave., Campbell, CA, (408) 379-2774. Gavilan BBS (408) 374-3974, 300/1200, 24 hours, free.

HEATHKIT San Jose Heathkit Users Group. Meets first Wednesday at 7 pm at the Heathkit store on South Bascom Ave. in Campbell.

B.A.H.U.G. Bay Area Heath Users. Heath/Zenith computers, ZDOS, PC-DOS, CP/M and MS-DOS. Meetings at 2001 Middlefield Rd., Redwood City, CA, 7 pm, 2nd Tuesday of each month.

NBHZUG North Bay Heath/Zenith Users Group. Devoted to Heath/Zenith computers in specific and MS-DOS, CP/M computers in general. Beginners and advanced. Meeting place varies, time 2nd Saturday, noon. Contact Martin Schaaf, (415) 454-6761 for information.

HEWLETT-PACKARD Bay CHHU, HP Laptop & Handhelds. Meets 2nd Saturday of the month. Contact Jim Horn (707) 523-4890 or Michael Felsenstein (415) 564-8279.

INTEREX is the International Association of Hewlett-Packard Computer Users, with affiliated users worldwide, approaching 10,000. Acting as an information resource for users of HP computers (HP3000, 1000, 900 and Series 100), INTEREX maintains libraries of user contributed software. The software is available through the CSL membership categories. INTEREX has three publications, one or two for each of the categories. Phone (408) 738-4848 or write User Services Department, 680 Almon Ave., Sunnyvale, CA 94086.

IBM South County PC Users Group Meetings held second Thursday of each month at St. Clements School Library, 730 Calhoun St., Hayward. Public Domain and shareware disks, newsletter. Contact Bob McCloud (415) 537-9899.

Silicon Valley Computer Society. New users SIG, 7:30 pm, 2nd Wednesday at Hewlett-Packard Co., Bldg. 50, 5301 Stevens Creek Blvd.; call Dick Meyer, (408) 723-0159. dBASE III SIG, 7:30 pm, 4th Thursday; call Thaine and Barbara Anderson, (415) 345-0152. WordPerfect SIG 7:30 pm, date variable; call Martin Van Derpool, (408) 238-8434. Software tools and graphics SIG, 7:30 pm, 4th Tuesdays; call Hal Sampson, (408) 866-7833. Artificial Intelligence SIG, 7:30 pm, 2nd Thursdays; call Kent Byron, (415) 656-0410. Telecom SIG, 7:30 pm, 1st Monday; call Scott Sawicki, (408) 243-8781. Lotus 1-2-3/Symphony SIG, 7:30 pm, 3rd Thursday; call Bill Welch, (408) 247-3405. C programming SIG, 7 pm, 3rd Tuesday; call Fletcher Johnson, (408) 946-0960.

California PC LAN Users Group, 1625 The Alameda, Suite 511, San Jose, CA 95126. (408) 289-1711.

Diablo Valley PC. An IBM PC User Group, monthly meetings, newsletter and public domain software library. Contact Jim McDonnell, president, 2261 North Main St. 117, Walnut Creek, CA 94596, (415) 933-1270.

The Bay Area Computer Society Emphasis on IBM PCs, networking and multi-user systems. P.O. Box 20583, Oakland, CA 94604, (415) 839-5786.

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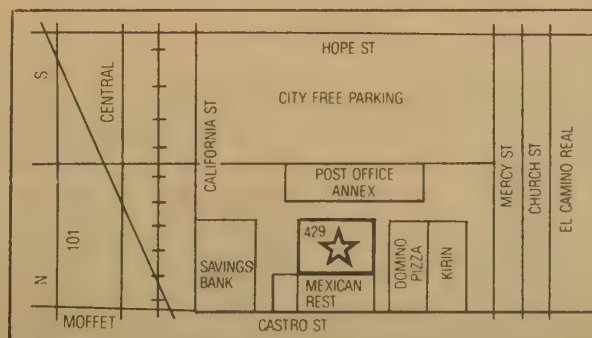
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IBM PC Users Group of the Redwoods. Anyone interested in PCs and/or compatibles is welcome. Meetings at Yulupa School, 2250 Mesquite Dr., Santa Rosa, CA, 4th Thursday of the month, 7 pm. Contact Michael Adams, P.O. Box 5055, Santa Rosa, CA 95402, (707) 664-8320, (707) 546-3619.

Sacramento PC Users Group. Over 1000 members. Meetings at Holiday Inn Holiday, 5321 Date Ave., 7 pm, 3rd Wednesday. Contact Barney McCauley, P.O. Box 685, Citrus Heights, CA 95610, (916) 484-1048, or call the club number (916) 332-1944.

SF PC Jr User Group meets monthly. Lectures and discussions on the usage of IBM PC jr software and hardware. Software and books library. For more information please send SASE to 2336 Market St., Suite 20, San Francisco, CA 94114. Meetings at 1550 Bay St., SF, every first Sunday at 7:30 pm.

San Francisco PC Users Group. Largest SF group focusing on IBM and compatibles. Over 150 disks of public domain software, excellent monthly newsletter, 800+ members, \$30 yr. Write 3145 Geary Box 155, San Francisco, CA 94118. Meetings 8 pm, 3rd Mondays, Bldg A Fort Mason.

Monterey Bay PCjr Users Group. Meets at Legacy Computers, 431 Tyler, Monterey, CA 93940. Usually meets second Thursday of the month. Contact Lloyd Reece, (408) 899-5795. Mail to Box 1191, Seaside, CA 93955.

Valley PC Users Group. Individuals and corporate users of the IBM PC and compatibles; guest speakers from major vendors, public domain software, exchange problems and solutions. BBS 24 hours (209) 952-5021. Meeting address 731 Brookside Road, UOP School of Pharmacy, Rotunda Bldg., Stockton, 7 pm, 1st Tuesday. Contact Francis Pillow, P.O. Box 77748, Stockton, CA 95207, (209) 478-9697.

FUNHUG PC—Fremont, Union City, Newark, Hayward User Group. For recreational/home users of IBM PC and compatibles. We meet on the third Wednesday of each month at the Fremont Main Library, 39770 Paseo Padre, Fremont, CA at 7:30 pm. We have software/hardware demonstrations and visits from manufacturers. Our library contains over 350 disks of public domain software. There are no dues, beginners are always welcome. For more info and map send SASE to Russ Fisher, 36015 Pizarro Dr., Fremont, CA 94536.

Marin-Sonoma PC Users Group. Meets last Tuesday of the month, 7:30 pm, in the Whistlestop building, 930 Tamalpais St., San Rafael, CA. Park in Savings and Loan parking lot across the street. Classes, SIGs, 24 hour BBS at 415/927-1216. Emphasis on business applications and solutions. For additional information contact John Hawkins (415) 525-8500, P.O. Box 6476, San Rafael, CA 94903.

Santa Cruz Computer Society. An IBM PC and compatible for beginning to advanced users, programmers and decision makers. Meetings 3rd Thursday, 7 pm, 1555 Soquel Dr., Santa Cruz (Dominican Education Center). Call Daniel Payne, (408) 476-0203.

San Francisco Computer Society, a CP/M and MS-DOS user group, meets on the first Monday of each month, 7:00 pm, at Homestead Savings, 5757 Geary Blvd., San Francisco. Membership is free, meetings are free and open to members and non-members. Member of FOG. For more information call Ralph Gallagher at (415) 929-0252.

IBM Compatible User Group of Silicon Valley. Meets monthly to share information about IBM compatible or clone computers. BBS (408)287-8326, 300/1200, 5:30 pm-7:30 am M-F, 24 hours weekends. Call (408) 287-8325 for information, or write to 1515 The Alameda, Suite 303, San Jose, CA 95126.

Microcomputer Users Of Santa Cruz (MUSC). A FOG affiliate, membership open to all persons interested in MS-DOS or CP/M computers. Meetings the second Tuesday of each month. Wheelchair access. Guest speakers, demonstrations, MS-DOS and CP/M software libraries. Info: Barney Brimont, 1920 Maciel Avenue, Santa Cruz, CA 94062. (408) 476-0504.

Berkeley P.C. Users Group. Meets on the 2nd Monday of each month, 7:00 pm, at 2618 Telegraph Avenue, Berkeley. For more info, contact Mel Mann, 1145 Walnut Street, Berkeley, CA 94707, (415) 527-2177 or Andy Wong, 2618 Telegraph Ave., Berkeley, CA (415) 845-4814.

IBM AT/XT Clone Users Group. Meets 2nd Monday of every month at Bldg. 'C' (usually room 215) Fort Mason Center in San Francisco. \$25 annual membership includes newsletter. Group focuses on clone hardware and support. P.O. Box 15000/324, San Francisco, CA 94115. Voice: (415) 861-9321. BBS: (415) 552-9070.

Mid-Peninsula IBM-PC Club. For IBM employees only. Contact George Halle (415) 855-3474 or Scott Maiden (415) 855-3038.

SACTO PCjr Group. Meets on the 4th Tuesday of each month at SMUD Bldg., 59th and Folsom Blvd., Sacramento, at 7:15pm.

CADVANTAGE - Cadvance Users Group. Meets at Mitchell Park Community Center, 300 Middlefield Road, Palo Alto. 7/22/87, 10/21/87, 1/20/88, 7:00pm to 10:00pm. PC CADD for architectural/facility designers. Current users and/or those contemplating CADD are welcome. Meetings take place once every quarter.

BAYPUG-Bay Area P-CAD Users Group. Meets P-CAD 1290 Parkmoor, San Jose. 7/30/87, 10/29/87, 1/28/88, 9:00am to 1:00pm. PC CADD for PCB/CAE Designers. Current users and/or those contemplating CADD are welcome. Meetings take place once every quarter.

The Blacksmiths-ANVIL 1000 MD Users. Meets at Mitchell Park Community Center, 300 Middlefield Road, Palo Alto. 7/15/87, 10/14/87, 1/13/88, 7:00pm to 10:00pm. PC CADD for Mechanical Drafting and Engineering designers. Current users and/or those contemplating CADD are welcome. Meetings take place once every quarter.

Stanford/Palo Alto PC Users Group. Meets last Wednesday of the month at 8:00 pm, Polya Hall, Turing Auditorium (Room 111), Stanford.

KAYPRO

BAKUP (Bay Area Kaypro Users and Programmers). One of largest Kaypro user groups in country. Meet 3rd Tuesday of month, 7:30 pm. We support our RBBS/RCPM for members, publish a monthly newsletter, have a 40 volume software library, and a lot of fellow KP'ers! Write for info, \$10 per year to join: Membership Coordinator, P.O. Box 20181, Oakland, CA 94620.

KAYFUN Peninsula Kaypro Users Group meets second Thursday of every month at 7:30 pm in the ground floor social room, 222 Laurel St., San Carlos. Bimonthly newsletter, public domain software library, and publication library. Membership \$12 per year. Every third meeting a Free Forum night dedicated to individual help. Contact Larry Welling, 222 Laurel St. #310, San Carlos, CA 94070, (415) 593-9981.

South Bay Kaypro Users Group (SBKUG). Meetings at 10400 Torre Ave., Cupertino. We have an extensive library of public domain software, including over 200 diskettes of the

SIG/M library. The floor is open for questions at each meeting, and we welcome new members at all levels of ability. Bring your machine, or at least your diskettes. For meeting night call Chuck Hansen at (408) 257-5244, or write P.O. Box 390088, Mountain View, CA 94039-0088.

HAYPROS. Kaypro User's Group—informal format, dealer supported. Meets at Computer Insights, 40957 Grimmer Blvd., Fremont, CA 94538, 1st Tuesday each month. Contact Ted de Castro, 18841 Vineyard Rd., Castro Valley, CA, (415) 581-8882.

Microcomputer Users Of Santa Cruz (MUSC). A FOG affiliate, membership open to all persons interested in MS-DOS or CP/M computers. Meetings the second Tuesday of each month. Wheelchair access. Guest speakers, demonstrations, MS-DOS and CP/M software libraries. Info: Barney Brimont, 1920 Maciel Avenue, Santa Cruz, CA 94062. (408) 476-0504.

San Francisco Computer Society, a CP/M and MS-DOS user group, meets on the first Monday of each month, 7:00 pm, at Homestead Savings, 5757 Geary Blvd., San Francisco. Membership is free, meetings are free and open to members and non-members. Member of FOG. For more information call Ralph Gallagher at (415) 929-0252.

Silicon Valley FOG. Supporting all types of CP/M micros. Two meetings monthly, one at the Campbell Public Library, 70 North Central Ave., Campbell, and the other at the Saratoga Community Library, 13650 Saratoga Ave., on the southeast corner of Saratoga and Fruitvale Avenues, Saratoga. Call (408) 371-8699 for further information.

LEADING EDGE

Bay Area Leading Edge User Group. Interested in starting a Leading Edge User Group? Write to Jim Williams, 26765 Calaroga Ave., Hayward, CA 94545.

MACINTOSH

EBMUG (East Bay Macintosh User's Group) Friendly, informal. Public domain software and computer book library. Information exchange. Speakers. Product discounts. Free admission. Meets at West Berkeley Public Library, 1125 University Ave., Berkeley, CA, third Tuesday of each month at 7:30 pm. Contact Shep Tamler at P.O. Box 7816, Berkeley, CA 94707-0816.

Bay Area MacForum New and experienced Macintosh users. 2 monthly meetings, one in conjunction with San Francisco Apple Core, and one in Concord. For meeting and current events information call (415) 771-5830. Recorded message 24-hours, live person sometimes during business hours. Leave name and address to receive information.

Berkeley Macintosh User Group (BMUG). 1442A Walnut St., #62, Berkeley, CA 94709. General meetings: every Thursday 6 pm, Physical Sciences Lecture Hall on UCB campus. SIG meetings on Mondays, Tuesdays and Wednesdays. Call for more info and this week's topic. (415) 849-9114. BBS (415) 849-BMUG.

MacNexus. Sacramento's Macintosh User Group. 150 members, but still informal. Extensive public domain collection. Contact Gail McGovern, P.O. Box 163058, Sacramento, CA 95816, (916) 446-2411. Meetings 3rd Thursdays, 6:30 pm, Almond Plaza, 17th & C, Sacramento.

MacProgram Unlimited. Meets monthly. Informal with hands-on testing of different programs. Public domain and standard programs in rental library. Meets Albany YWCA, Kains and Solano, Saturday 9:30 am. Contact William Gong, P.O. Box 7704, Berkeley, CA 94707. (415) 527-1756.

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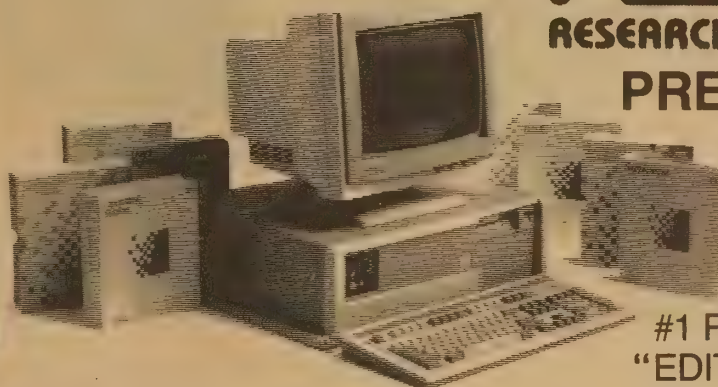


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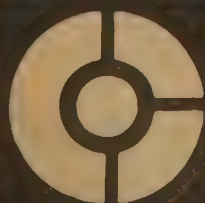


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Stanford Macintosh Users Group (SMUG) meets on the first Monday of the month at 7 pm in Kresge Auditorium, Stanford Campus. Meetings include speakers, discussions, answers and sale of library disks and other SMUG items. The Excel, Novice, Developer's, Japanese Word Processing Groups each meet twice monthly. SMUG publishes a newsletter and runs a BBS. Call the SMUG hotline at (415) 723-SMUK for a listing of current events. Stanford Macintosh Users Group, P.O. Box 2354, Stanford, CA 94305-0135.

Club Mac of Monterey. Macintosh User Group of Monterey Bay Area. Membership with monthly newsletter \$25. Meetings 7 pm, last Wednesday of the month, Santa Catalina School, Monterey. Contact Richard Ware, P.O. Box 222988, Carmel, CA 93922.

Macs Of Marin. Macintosh users of Marin County. Both beginning and experienced users are welcome. Meetings: Room 104, Austin Science Building, College of Marin, 2nd Thursday of each month, 7:00 pm. Contact Steve Salzman, (415) 459-5707.

maCruzers, a Macintosh user's group, meets every second Wednesday of the month at Loudon Nelson Recreation Center in Santa Cruz, 7 pm. For information call (408) 459-1644, or leave mail on The WELL (415-332-6106) for Paul Foraker [sforaker]. Wood Ring BBS (408) 423-7205, 18 hrs/day, several meg of shareware/pd utilities and games; making the effort to have the latest version of important DAs and utilities.

Association of Apple 32 Users. Meetings at GTE in Mountain View, 2nd Saturday of the month. Contact Ken Silverman, P.O. Box 634, Santa Clara, CA 95052, (408) 263-0398.

BAMMSBUA: (San Francisco) Bay Area Mac M.S. Basic Users Anonymous. A high-level users group devoted to the Microsoft dialect of BASIC for the Macintosh. Meets the second Tuesday of each month. For more information contact Ted Jones (415) 826-9239.

Mac Health User Group. For DentalMac, Medimac and Chirromac users, and interested others. To discuss ways to better use these billing and accounts receivable programs and the Macintosh in health-care practice. Meets at various times and locations. For more info, contact Robin Guess, 896 24th Avenue, San Francisco, CA 94121, (415) 387-3042.

Hellmans Open House. Meets every Tuesday 7 pm at 814 "E" St. San Rafael. Macintosh Network Games, Mazeware and Net-Trek. Bring your Mac and Appletalk cables if you have them. For more info call (415) 453-7924.

Silicon Valley Christian Mac Users Group. Meets 1st Thursday of each month at 7 pm at various locations. All Bay Area Christian Mac users invited. Informal, just getting started, monthly newsletter and hot lines. Contact Rick Thrasher 2190 Bristolwood Ln., San Jose, CA 95132. (408) 945-4946.

MICROMATE

East Bay Micro-Mate Users' Group. CP/M (3.0) public domain software available. Meetings at 757 Longridge Rd., Oakland, 1st Thursday of each month. Contact Ed Miller, P.O.B. 402, Moraga, CA, 94556, or call (415) 376-1611 for info.

MICROPRO

Wordstar Users. Forming user group for Wordstar users. Please write to P.O. Box 1331, Menlo Park, CA 94025 or call (415) 325-4277.

MIDI

MIDI Applications Group. Meets first Saturdays of the month. Contact John Komlenic, 1411 10th Ave., Oakland, CA 94606, (415) 465-6216.

MORROW

BAMDDUA (Bay Area Micro Decision Users Association). Meets on last Tuesday of the month, 7:30 pm. Call (415)

644-2805 for location. Monthly newsletter.

SMUG (Stanford Morrow Users Group). Meets 2nd Wednesday of each month at 7 pm on Stanford Campus, Shultz Auditorium, Health Research and Policy building, Campus and Lomita Drive. Other CP/M users welcome. For further information call Ross E. Voyles, (408) 243-1455.

Microcomputer Users Of Santa Cruz (MUSC). A FOG affiliate, membership open to all persons interested in MS-DOS or CP/M computers. Meetings the second Tuesday of each month. Wheelchair access. Guest speakers, demonstrations, MS-DOS and CP/M software libraries. Info: Barney Bricmont, 1920 Maciel Avenue, Santa Cruz, CA 94062. (408) 476-0504.

PETMUG — Petaluma Morrow Users Group. Meets West-america Bank, Washington Square, Petaluma, 7:30 pm, 4th Thursday of the month. Contact Frank Nance, president, 293 Circulo Puebla, Rohnert Park, CA, (707) 585-2980.

San Francisco Computer Society, a CP/M and MS-DOS user group, meets on the first Monday of each month, 7:00 pm, at Homestead Savings, 5757 Geary Blvd., San Francisco. Membership is free, meetings are free and open to members and non-members. Member of FOG. For more information call Ralph Gallagher at (415) 929-0252.

Silicon Valley FOG. Supporting all types of CP/M micros. Two meetings monthly, one at the Campbell Public Library, 70 North Central Ave., Campbell, and the other at the Saratoga Community Library, 13650 Saratoga Ave., on the southeast corner of Saratoga and Fruitvale Avenues, Saratoga. Call (408) 371-8699 for further information.

NEC

Bay Area NEC/100 Users. For NEC 8201A and TRS-80 Model 100. 1st and 3rd Thursdays, 7:30 pm. Contact Rachel Holmen, c/o Truly Portable, Box 2916, Oakland, CA 94609, (415) 658-1889. Call for location.

NORTHSTAR

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OSBORNE

East Bay FOG (First Osborne Group) Osborne, Kaypro and Morrow. Meets second Wednesday of the month at B&B Electric, 2832 Ford Street, Oakland. 6 pm workshops, 7:30 pm program. For info contact 5497 Taft Ave., Oakland, CA 94518; phone (415) 272-9099.

SMOG3 Osborne User Group (Peninsula) Meets first and second Monday of every month at Crane Place, 1331 Crane, Menlo Park. Call Phil Moore at (415) 325-2442.

MTDOG (Mt. Diablo Chapter-First Osborne Group) Meetings 7 pm, 3rd Wednesday each month in Diablo Room (top floor), SF Federal Savings and Loan, 1660 Olympic Blvd. (cross-street: California), Walnut Creek. Software library, software / hardware / service demonstrations, sharing problems and solutions. For meeting info contact Larry Sydes, (415) 933-2665.

North Bay First Osborne Group. Meets first Thursday of the month at 7:30 pm, Valley Oaks Apts. Rec. Hall, 2600 Northcoast St., Santa Rosa, CA (off West Steele Lane). Call (707) 546-0145 for more information.

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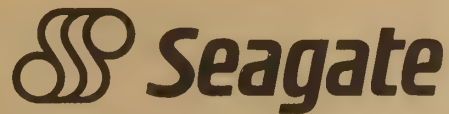
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San Francisco Computer Society, a CP/M and MS-DOS user group, meets on the first Monday of each month, 7:00 pm, at Homestead Savings, 5757 Geary Blvd., San Francisco. Membership is free, meetings are free and open to members and non-members. Member of FOG. For more information call Ralph Gallagher at (415) 929-0252.

Silicon Valley FOG. Supporting all types of CP/M micros. Two meetings monthly, one at the Campbell Public Library, 70 North Central Ave., Campbell, and the other at the Saratoga Community Library, 13650 Saratoga Ave., on the southeast corner of Saratoga and Fruitvale Avenues, Saratoga. Call (408) 371-8699 for further information.

PAPERBACK SOFTWARE

V-P Planner Special Interest Group. Meets 2830 Ninth St., Berkeley, CA, every third Thursday, 7:30 pm. Contact Lloyd W. Bracewell, 6200 Harwood Ave., Oakland, CA 94618, (415) 547-8205.

PICK

Northern California Pick Users. NCPU mails a monthly newsletter, meets on the third Tuesday of the month for a dinner meeting with Pick related program, holds Pick educational courses, and has many other member benefits. P.O. Box 884474, San Francisco, CA 94188-4474, (415) 284-4063.

PIED PIPER

Pied Piper Users Group Owners of Pied Piper CP/M based computer are invited to call or attend the PPUG. Meets last Tuesday of the month at 7:30 pm. Please call (415) 638-1146. Meeting address: 10950 Elvessa St., Oakland 94605.

PROLOG

Prolog. A SIG-Prolog is being formed. Interested? Call Jorge (415) 969-5045 or Dave (415) 368-8450 (evenings).

R2E

North Bay R2E Forming user group for R2E System micro-computer users. Please call (415) 235-1598 for information.

RADIO SHACK TRS

TRS-80 Computer Society of Diablo Valley The purpose of this group is the sharing of information, problem solving, support group, purchasing discounts, support for professional, business and educational users of Radio Shack computers. Out-of-area members welcome. Meetings second Tuesdays of the month, Willow Creek Center, 1026 Mohr Lane, Concord, 7:30-9:30 pm. Doors open at 7. Contact Roy or Sue Copeland, P.O. Box 23438, Pleasant Hill, CA 94523, (415) 372-7003.

TRS Nybbblers. All Tandy computers including MS-DOS (IBM Compatibles). SIG's include laptops, CoCo's, Mod 1,3,4, Mod 2, 12, 16, 6000 and MS-DOS. Access to a variety of Public Domain software. Education modules, "problem solving" peripheral committee. Meets at Chabot College (Rooms 600 & 1564) 2nd Friday, 8 pm. Write TRS-Nybbblers, Chabot College, 25555 Hesperian Blvd., Hayward, CA 94545. Attn Mel Edwards. Call B.B. Jarvis (415) 846-3575.

Bay Area Chapter of the California Computer Federation, a user group for Color Computer users formed by The Redwood Color Board. Write the R.C.B., P.O. Box 7007, Redwood City, CA 94063 for details.

South Bay TRS 80 Users Group (SBUG). For info write P.O. Box 60116, Sunnyvale, CA 94088 or call Don Rhodes at (408) 996-1008. BBS: (408) 253-6293. Meetings, Cupertino library, 3rd Tues., 7:15 pm.

San Mateo TRS-80 Users Group. Meets 4th Thursday of the month at Cal Fed S&L, 2600 Ocean Ave., SF, 7:30 pm. BBS (415) 574-7684, 300/1200, 8-N-1 settings. Contact Julian Kaufman, (415) 992-1783.

Bay Area NEC/100 Users. For NEC 8201A and TRS-80 Model 100. Meets 1st and 3rd Thursdays, 7:30 pm. Contact Rachel Holmen, c/o Truly Portable, Box 2916, Oakland, CA 94609, (415) 658-1889. Call for location.

Byte Bandits of America. Meets 2nd Saturdays 1 pm, 4th Wednesday 7 pm, 780 Manx Ave., Campbell, CA. Call Robert W. Brown, (408) 379-2774 for information. BBS: 300/1200. 24 hrs., free, (408) 374-3974.

Club 100. A Model 100 users Group. Dedicated to Model 100, 103, 200, NEC 8201A and Olivetti M10 users. Contact Richard Hanson, club secretary, P.O. Box 23438, Pleasant Hill, CA 94523, or call our club BBS at (415) 939-1246. We are a very active, on-line club with many helpful members, and a large Model 100 public domain library available to members.

United Computer Federation: San Francisco Chapter. Meets the fourth Tuesday of each month at the Foster City Fashion Island Mall community room. Meeting starts at 7:30 pm. Meetings are open to the public and all are welcome. The UCF is a network of Tandy color Computer user groups. For more information phone Brad Ryan, Chapter Vice President, at (415) 469-3122.

REALWORLD

Bay Area REALWORLD Users Group meets the third Tuesday of each month. For more information contact Mitch Paioff, 5097 Tisdale Way, San Jose, CA 95130, (408) 866-4310.

ROYAL

Royal Alphatronic, San Francisco. New group forming. Call Tom Rutkowski at (415) 863-4794 for information or write P.O. Box 421161, San Francisco, CA 94142.

S-100

S-100 Bus Users Group. Meets fourth Tuesdays, 7:30 pm, Community Room, El Paseo de Saratoga, San Jose. Contact Dick Delp, Box 10404, San Jose, CA 95157, (408) 245-2137. CP/M-80, S-100 emphasis. CP/M and MS-DOS libraries.

SANYO

Sanyo MBC 1100-1150 user group now forming in Oakland. Call or write (415) 534-1981, 5885 Bancroft Ave., Oakland 94605 for meeting time and location.

Sanyo National Users Group. SNUG is a central resource for Sanyo information and public domain. Inquiries welcome! Contact John Egan, 101 Irving Ct., Pleasant Hill, (415) 827-3023.

Sanyo PC Compatible Club. SPCC supports Sanyo 16 bit machines and similar PC clones. We publish the Sanyo PC Hackers Newsletter (International), subscription rate \$20/yr., and maintain a public domain software library. Meeting at the Mercury Room of Mercury Savings & Loan, 99 El Camino Real, Menlo Park, CA, 7-9 pm the first Wednesday of the month. Contact Victor R. Frank, 12450 Skyline Blvd., Woodside, CA 94062, (415) 851-7031.

SOUTHERN PACIFIC

ICOLATUG. User group for owners of Southern Pacific Ltd's Mountainside ICO and LAT single board computers. Exchange tips and programs. Contact Andrew P. Porter, 774 Joyce St., Livermore, CA 94550.

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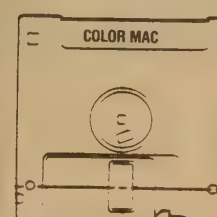
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available in library. Meetings 12 noon, third Saturday of the month, 3751 Elston Way, Oakland. Contact Gary L. Anderson, 24816 Mango St., Hayward, CA 94545, (415) 786-1776.

South Bay T.I. User Group. One general meeting per month. We have training session, library and own bulletin board (408) 578-6264. Meets first Thursday of each month at 7:00 pm, Cupertino Library, 10400 Torre Ave., Cupertino, (between DeAnza Blvd. and Rodriques Ave.) starting at 7 pm in the basement conference room. Call v.p. Keith Felix, (408) 258-6678.

Nor-Cal TI 99/4A Users Group. Learn more about your Texas Instruments 99/4A computer. Free software, sources of hardware and software. Contact Dave Steady, 324 Howard St., Petaluma 94952, (707) 762-6561. Meetings at Retail Clerks' Union Hall, 382 Tesconi Ct., Santa Rosa, CA, first Wednesday of the month at 7 pm.

Santa Clara Valley TI Pro User Group. Meetings 7 pm, 4th Thursdays, location varies. Contact Tom Schoen, PO Box 871, Newark, CA 94560, (415) 793-6670.

THEOS OASIS

Theos/Oasis Users Bay Area Group. Greater SF Bay Area users of THEOS and OASIS multi-user operating systems meet quarterly to focus on "hot" issues and share info. Contact Joe Trimble, 236 Frisbie St., Oakland, CA 94611, (415) 839-3281.

TIMEX SINCLAIR

East Bay Timex/Sinclair User Group (EBZUG) Timex/Sinclair user group. S/W library and newsletter. Usually meets 4th Thursday of the month at 7:30 pm. CALL FIRST FOR EXACT TIME AND PLACE. Contact Russ English, 415/465-3116 or write to Woody McPheeters at 3128 King St., Berkeley, CA 94703.

Timex/Sinclair Users of Silicon Valley (GUTS/SV) c/o Bill Miller, 6675 Clifford Drive, Cupertino, CA 95014-4530. 253-3175. SW library and newsletter. Meets every Saturday morning at 9:00 am at Stanford University, Jordan Hall (in the quadrangle), Math Building (number 380) in room 380C (downstairs). For topic check the PDSE (Public Domain Software Exchange) BBS in Sunnyvale at (408) 735-7390, 300/1200, 8-N-1, 24-hours, 32 lines (no waiting!).

Silicon Valley Timex/Sinclair User Group (SVTSUG) Timex/Sinclair user group: 6675 Clifford Drive, Cupertino, CA 95014-4530. Bill Miller (408) 253-3175. SW library and newsletter. Meets at Cupertino Library, 10400 Torre Ave., Cupertino, CA, last Tuesday of the month.

UNIX

The Unix C-Club Seminars. public domain softwares, information exchange, Unix hardwares and softwares. Discount on purchases. Meets 2nd Saturday of each month at 10 am. Call Gilbert B. Dalit at (415) 348-6723 or (408) 238-5587 for more information, or write: 122 2nd Ave., Suite 214, San Mateo, CA 94401.

VECTOR

Bay Area Vector Group Meeting held regularly. Please call to be put on mailing list. You will be informed of next meeting! Contact Peter Tjeerdsma, 764 Cole St. #4, San Francisco, CA 94117. Phone (415) 681-0308.

VICTOR

Victor* Group is the San Francisco Bay Area Victor User's Group. We have three chapters East Bay, South Bay, and San Francisco. Members can attend meetings at any of the chapters or all of them. The more the merrier. Dues are \$30 a year, which includes a subscription to VictorTalk, membership in a Victor-exclusive discount buy-

ing cooperative, and the right to buy from our public domain library at a discount. South Bay meetings are held the first Thursday of each month at Computer Insights, 40957 Grimmer Blvd., Fremont at 7:30 pm. Contact John Kimber (415) 797-6423. East Bay meetings are held the second Wednesday of the month at 7:30 pm; contact Boardman Moore (415) 283-3285 for location and further info. San Francisco meetings are held the third Sunday of the month at 5 pm at Homestead Savings, 130 West Portal, San Francisco. Contact Joe Zmuda, (415) 584-4048.

VTC-1050

VTC-1050 User's Group. Establishing a VTC-1050 User's group and newsletter. Interested parties please call or write Ken Phillips, 4349 Blackford Ave. #1, San Jose, CA 95129, (408) 973-1353.

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South Bay Word Perfect User Group. Call Martin Van Derpool, (408)238-8434 for information.

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Zenith User Group of San Francisco. Zenith users are forming a user group and bulletin board for Zenith computers. Hands on demonstrations will be provided on the full line of

Zenith hardware. Meetings at 1325 Howard St., SF, CA. Contact Stan Kelley, 415-861-3068.

B.A.H.U.G. Bay Area Heath Users. Heath/Zenith computers, ZDOS, PC-DOS, CP/M and MS-DOS. Meetings at 2001 Middlefield Rd., Redwood City, CA, 7 pm second Tuesday of each month.

NBHZUG North Bay Heath/Zenith Users Group. Devoted to Heath/Zenith computers in specific and MS-DOS, CP/M computers in general. Beginners and advanced. Meeting place varies, time 2nd Saturday, noon. Contact Martin Schaaf, (415) 454-6761 for information.

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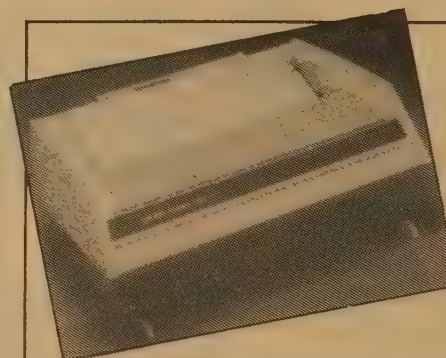
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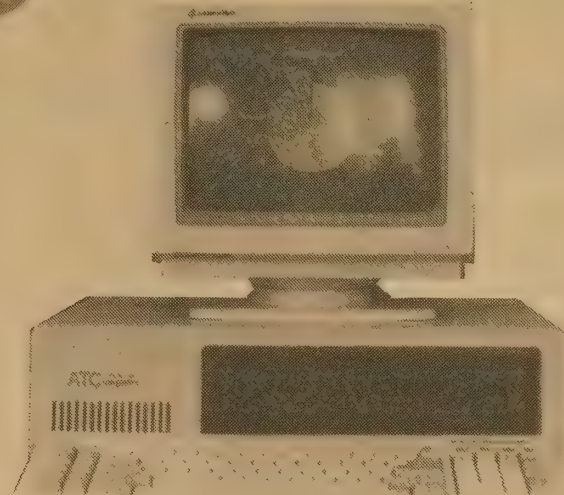
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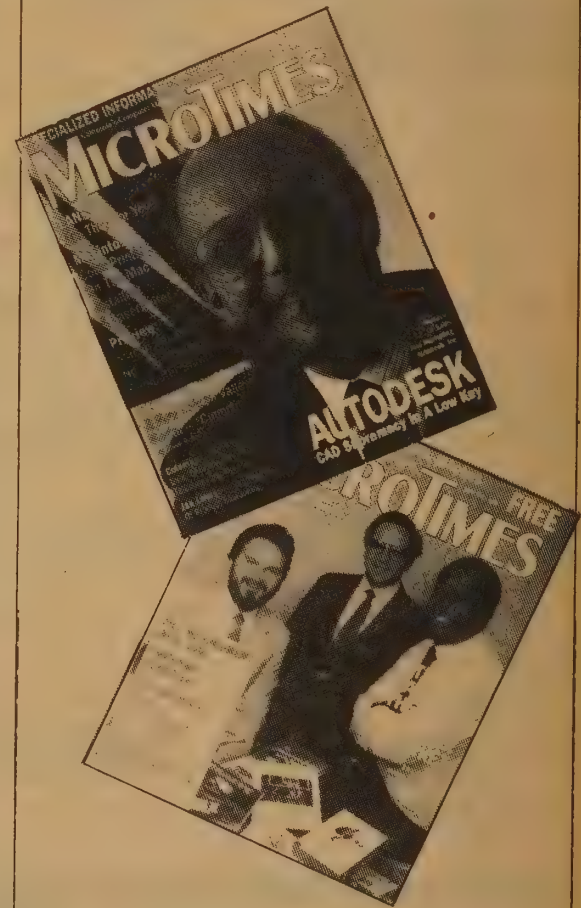
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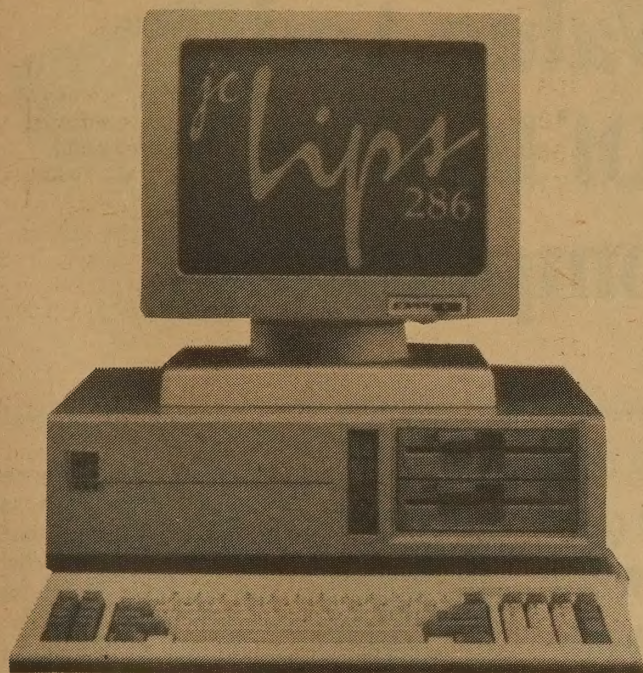
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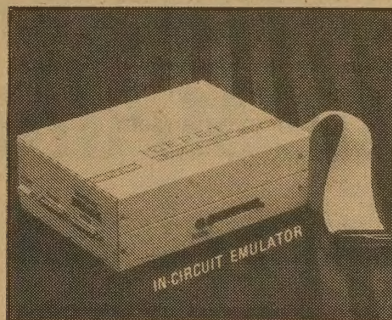
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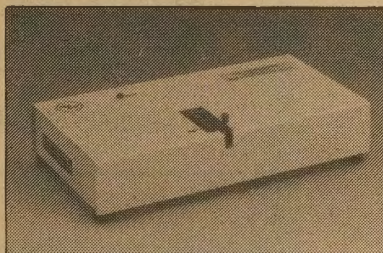
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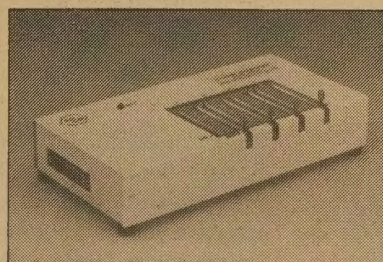


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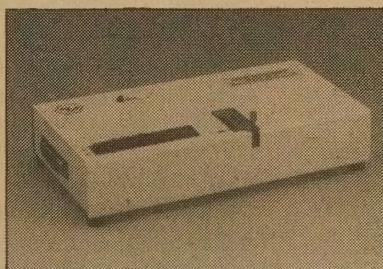


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DVORAK'S LAST COLUMN

Dullness, Columnists, Entertainment Value And The Meaning Of It All: An Exercise In Complaining

By John C. Dvorak

Maybe it's overall dullness I'm complaining about. The specialty magazines are the worst, and computer magazines are near the top of the list. I'd say the list of dull magazines goes as follows:

TOP 20 LIST OF DULL MAGAZINE CATEGORIES

20. Women's Magazines
19. Magazines About Rock And Roll
18. College Quarterlies
17. Oil Company Employee Newsletters
16. Humor Magazines
15. Men's Magazines
14. Car Magazines
13. Motorcycle Magazines
12. Boating Magazines
11. Photography Magazines
10. Home Repair Magazines
9. Audio/Hi-Fi Magazines
8. Body-building Magazines
7. Golf Magazines
6. Tennis Magazines
5. Newsweek
4. Collectibles Magazines
3. Dog And Cat Magazines
2. Computer Magazines
1. Sports Magazines.

Computer Magazines come in a close second to Sports Magazines. While both may be dull, both make scads of money. *Sports Illustrated*, which has nothing to say of any importance, makes a ton of money. It's obvious that dullness has little to do with success. Promotion is the name of the game.

A lot of people don't understand that most of what they read in these magazines is predigested by the editors. I think this has a lot to do with the boring nature of many magazines. I've only met three editors in my life who weren't dull. They know who they are.

Anyway, big-time magazines like *Business Week*, *Time*, *Newsweek* and *U.S. News And World Report* are actually written by teams of people and then sent into a rewrite-and-edit factory to be churned out in such a way that the entire magazine has the same sound to it from page one to the end. The columns are the only exception to this blender approach to journalism, and many of them are fussed with by editors too.

I had a friend who, when she first went to work

Computer Magazines come in a close second to Sports Magazines. While both may be dull, both make scads of money.

for *Business Week*, said she couldn't recognize her own writing after the editors got through with it. While I see nothing wrong with stylistic consistency in a publication, it tends to beat the life out of personalized critical analysis.

Computer magazines have trended towards this factory approach for some time. All that's left of individuality are the editorials and a few columnists, and there's a dearth of quality in both departments. There are only a handful of columnists, and we all know who they are.

I've tried to determine the reason for this lack for some time. My quest began when Bill Machrone, Editor-in-Chief of *PC Magazine* (a talented guy), began to seek out a replacement for Peter Norton as a columnist in *PC*. Norton has been pocketing millions of dollars as a software mogul and decided to cut his writing back to one column and a few books. He liked his short *PC Week* techie column and kept only it.

Norton is a perfect example of what's wrong with the business. He developed himself as a columnist and topnotch writer of books, only to discover that one hit on the software charts and it's "Hello Bimini!" Who needs to write for a living? That's what's wrong—nothing lasts.

Anyway, so Machrone asks me who might be a good columnist. I realized that with the exception of some guys at *MacUser* and a few entrenched souls scattered about, there weren't any columnists around. Surely no sleepers. Why is this? I think it's because newspaper and magazine writers aren't encouraged to be opinionated, idea-oriented and mildly outrageous. It's no coincidence that many columnists have never worked on a newspaper and are book writers.

The dearth has a lot to do with the factory system of writing as cited above. The trouble is that those who haven't gone through the factory can seldom write well enough to qualify. The worst ones are the ones who think a column

should read like a personal note in a high school yearbook. "See ya! Luv ya!"

So let's look at the ranks of the daily newsmen. They write clean copy for the most part. Any columnists there? Nope. I've noticed that trained journalists cannot easily get out of the "objective" mindset that they are forced into by j-schools and newspaper editors. There's nothing wrong with this until they try to write a column. If they express an opinion, they usually feel obliged to back it up with boring references. By the time their opinion is fully explained it is so watered down with "but if's" and "on the other hand" disclaimers that it has no punch. The reader usually gives up on it midstream. The main problem, though, is that today's journalist doesn't want to write a column. They think columnists are jerks.

The trained journalist who winds his way into the ranks of columnists usually turns out to be a feature writer who can alter his or her style and fake a column. Editors love these types because they don't make waves, and their opinions, which tend to be sugary, don't offend anyone—ever. You've read these so-called columns (or tried). Usually it's about how some guy in a wheelchair found that he could computerize his trip to the kitchen and save the batteries of the chair. The writer then interjects his or her "opinion." The so-called opinion usually goes something like this: "You see, there are good uses for computers, no matter what the detractors say. Just ask Jerry Goldstein. Nice going Jer'." It's enough to make you puke.

It's now obvious that columns are a specialty. Unfortunately, since it's a specialty, nobody teaches anyone how to do it. On the contrary, most writers who aspire to be columnists moan and groan about the best columnists, which proves that they miss the point. Most cited is San Francisco's column genius, Herb Caen, who has baffled the experts for decades. "Why do people read this guy? He stinks!" say the detractors. Instead of complaining they should figure out what he does and why it works so well. The detractors cannot read the guy objectively—that's how good he is! All it proves is that he communicates well and the detractors don't realize that they are affected—perhaps mesmerized. It's a crack up. It also indicates the columnist problem is universal and not endemic to computer magazines.

Anyway, so we'll have to wait for the next columnist for *PC*. It'll be awhile. Meanwhile, I'll read myself to sleep. □

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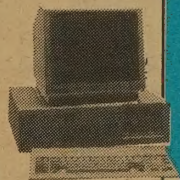
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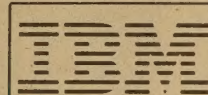
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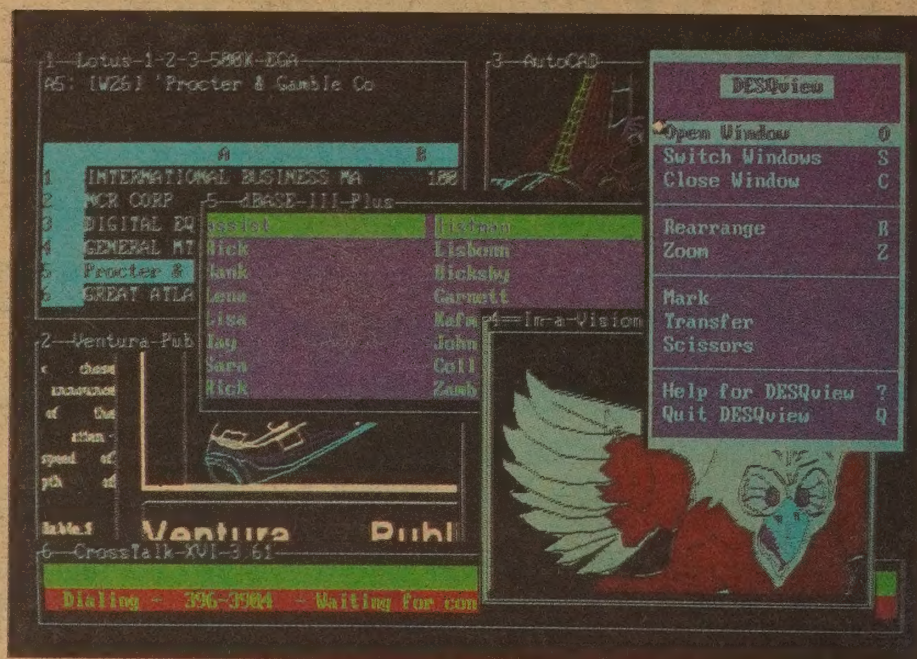
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